Techniques of Keyboard Improvisation in the German Baroque and Their Implications for Today's Pedagogy

by

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Submitted in Partial Fulfillment

of the

Requirements for the Degree

Doctor of Philosophy

Supervised by

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University of Rochester
Rochester, New York

2010

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Dedication

To my parents, Paul and Paula

Curriculum Vitae

Michael Callahan was born in Methuen, Massachusetts on October 12, 1982. He matriculated at Harvard University in 2000 and graduated in 2004 with a Bachelor of Arts degree in Music, *summa cum laude*. During his time at Harvard, he was among the 1.5% of his class to be inducted into the honor society Phi Beta Kappa as a junior, and also received the Detur Book Prize, the John Harvard Scholarship, and the German Departmental Prize. He came to the Eastman School of Music in the fall of 2004, supported by a Sproull Fellowship, and earned the Master of Arts degree in Music Theory in 2008. He has served as a teaching assistant (2004-2008) and graduate instructor (2008-2010) in the Department of Music Theory.

While in residence at Eastman, Michael has received the Edward Peck Curtis Award for Excellence in Teaching by a Graduate Student (2009), the Jack L. Frank Award for Excellence in Teaching at the Eastman Community Music School (2009), and the Teaching Assistant Prize (2005). He studied in Berlin during the summer of 2006, supported by a fellowship from the DAAD (German Academic Exchange Service). In addition to presenting at national and regional conferences and publishing research in *Theory and Practice*, he received the Dorothy Payne Award for Best Student Paper at the 2010 meeting of the Music Theory Society of the Mid-Atlantic.

Acknowledgements

The idea to study keyboard improvisation emerged almost all of a sudden in the spring of 2007, when the paths of three courses in which I was simultaneously enrolled managed to cross. Bob Wason's seminar on J. S. Bach's *Well-Tempered Clavier*, Dariusz Terefenko's workshop in Advanced Keyboard Improvisation, and my private study of harpsichord with William Porter all allowed me to explore the improvised keyboard music of the German Baroque, and from three different perspectives that have all found their way into the present study. All three of these improvisers have provided invaluable guidance on a project that probably would not have entered my mind had my experiences as their student not been so eye-opening.

I am particularly grateful to my advisor, Bob Wason, for his keen eye as a reader, his inspiringly deep and broad command of the history of music theory, and his willingness to prod me, always encouragingly, when I needed it. The connections that he drew between my work and other fields also prompted me to think in rewardingly different ways about improvisation and improvisational learning. I would also like to express my sincere appreciation to my other two readers, Steven Laitz and Dariusz Terefenko. To my great fortune, Steve's great care for the detailed meaning of my ideas as well as the clarity of my formulation of them has complemented Dariusz's knack for larger-scale focus, proportion, and audience. Conversations with all three of them have led me to think carefully about many aspects of this work, and I am in their debt for countless improvements, small and

large, that I made at their suggestion. Any omissions or errors in the final version of this text are my own.

For her unending support, understanding, and love, I am ever grateful to my fiancée, Liz, who brings joy and perspective to me every day. Finally, I thank my parents for the kind of childhood that cultivates a love of and curiosity about life, an incredible gift that I can repay only with constant thanks and pursuit of the dreams that they have made possible.

Abstract

This study undertakes a detailed investigation of certain trends of keyboard-improvisational learning in the German Baroque. Despite the recent resurgence of interest in Baroque keyboard improvisation, there remains no sufficiently precise explanation of how improvisation can transcend the concatenation of memorized structures while still remaining pedagogically plausible. An answer is provided here in the form of a flexible and hierarchical model that draws an explicit distinction between long-range improvisational goals (*dispositio*), generic voice-leading progressions that accomplish these goals (*elaboratio*), and diminution techniques that apply motives to these progressions to yield a unique musical surface (*decoratio*). It demonstrates how a limited set of learned resources interact with one another during improvisation in virtually limitless ways.

Chapter 1 lays the groundwork for a discussion of improvisational memory by synthesizing cognitive accounts of expert behavior with historical accounts of memory. By narrowing our conception of memory to the precise sort demanded of a keyboard improviser, it establishes the need for a hierarchical and flexible account of improvisation. Chapter 2 responds to this need, presenting a three-tiered model and applying it to improvised pieces as well as to the *Nova Instructio* of Spiridione a Monte Carmelo.

Chapter 3 provides a much-needed account of the intersection between *elaboratio* and *decoratio*, complementing the to-date better codified research on the

generic progressions themselves (e.g., *partimenti*, thoroughbass) by investigating the improvised diminution techniques that render their constituent voice-leading as a huge variety of musical surfaces. It offers the first detailed exposition of the mostly neglected, but hugely significant and highly sophisticated pedagogy of Michael Wiedeburg, which is demonstrated in sample improvisations. Chapter 4 explores imitative improvisation; it shows that the skills taught by the *partimento* fugue constitute part of a continuous lineage that reaches back into the Renaissance, and it investigates the improvisation of fugues without the assistance of such a shorthand. It also brings together and extends recent work on improvised canon, and elucidates the application of imitative improvisational techniques in sample improvisations.

Chapter 5 offers a potential starting point for a modern-day pedagogical approach to stylistic keyboard improvisation, beginning at the bottom of the improvisational hierarchy (i.e., *decoratio*) with ground basses, and working toward the top (i.e., *elaboratio* and then *dispositio*) with the improvisation of minuets. Finally, it takes an important step toward understanding variation technique creatively by teaching students to riff on existing pieces from the literature.

The aim of this research is not to discuss every pedagogical tradition of keyboard improvisation in the German Baroque, but rather to establish a clear conceptual framework for understanding the learning and the application of improvisational patterns and techniques. As such, it works toward coming to grips with the pedagogy, the practice, and the products of keyboard improvisation in that time and in our own.

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Introduction

The nature of artistry for stylistic keyboard improvisation is inherently paradoxical: It is both creative and reproductive, it both relies upon memory and transcends mere memorization, and it is both infinitely generative of never-before-played musical utterances and constrained by the set of stylistic idioms and patterns with which one has become familiar. The difference between an expert improviser and a novice is not necessarily that one is more creative than the other, but rather that one has access to a more sophisticated and flexible musical vocabulary than the other does. (Or, at the very least, the former assumes the latter.) Taking for granted that both the literal regurgitation of memorized excerpts and the entirely spontaneous invention of music would miss, on either extreme, the precise meaning of memory to an improviser, the present study undertakes a detailed investigation of the meaning of improvisational learning—a concept that informs in crucial ways our understanding of improvisational techniques and patterns, our analytical encounters with improvised pieces, and our own teaching and learning of stylistic keyboard improvisation.

To reconcile a finite lexicon of musical patterns and techniques with their unlimited generative potential in improvisation, we need a much clearer and more sophisticated picture than we currently have of the role that learning plays in improvisation. Despite the recent resurgence of interest in keyboard improvisation of the Baroque, particularly in the significance of *partimenti* and thoroughbass as pedagogical inroads to its mastery, there remains no sufficiently precise explanation of how improvisation can transcend the concatenation of memorized structures while

remaining pedagogically plausible. This study provides an answer in the form of a flexible and hierarchical model of memory for keyboard improvisation, which demonstrates how a limited set of resources interact with one another in virtually limitless ways. This model serves as a lens through which to view the pedagogy, process, and products of keyboard improvisation, focusing on selected German treatises and surviving notated improvisations of the later seventeenth through mid-eighteenth centuries.

Its flexibility derives from two crucial requirements: First, an explicit distinction must be drawn between the generic voice-leading progressions that constitute the skeletal frameworks of an improvisation, and the diminution techniques that transform them into a musical surface. Secondly, the generic patterns must be viewed not as the elements of improvisational discourse themselves (e.g., a piece consisting of Pattern A followed by Pattern B followed by Pattern C, etc.), but rather as options from which an improviser chooses flexibly in order to complete a series of improvisational tasks (e.g., a first reprise consisting of an establishment of the tonic key, a modulation to the dominant, and a strong cadence in the dominant key, all accomplished by means of one of many germane patterns). Indeed, flexibility is of utmost importance to improvisational learning and improvisational performance; of the two requirements mentioned above, the latter presupposes a flexibility of problem-solving (i.e., which learned pattern is employed to achieve a given improvisational goal), while the former demands a flexibility of rendition (i.e., how a skeletal pattern is realized as a musical surface).

Chapter 1 lays the groundwork for a discussion of improvisational memory by synthesizing cognitive accounts of expert behavior with historical accounts of memory and musical learning. By narrowing our conception of memory to the precise sort demanded of a keyboard improviser, the chapter establishes the need for a model of improvisational learning and performance that derives endless generative potential from the flexible and hierarchical interaction of a limited set of learned resources.

Chapter 2 responds to this need by presenting a simple, yet powerful model of improvisational learning in the form of a three-tiered hierarchy of *dispositio* (i.e., large-scale improvisational waypoints and goals), *elaboratio* (i.e., generic voice-leading patterns that accomplish these goals), and *decoratio* (i.e., diminution techniques that render the generic patterns as particular musical surfaces). Emphasis is placed on the flexibility of the intersection between each pair of adjacent levels; an improvisational goal can be fulfilled by any number of generic voice-leading patterns, and one such pattern can be realized by means of countless different diminution strategies. This model is then applied analytically to improvised pieces and improvisationally to the *Nova Instructio* of Spiridione a Monte Carmelo, which has been discussed by scholars such as Bellotti and Lamott, but not in sufficient detail. The myriad surface realizations that Spiridione offers for each bass pattern, while recalling the mode of improvisational learning that predominated in counterpoint treatises of the Middle Ages and Renaissance, elucidates the nuanced way in which voice-leading structures (*elaboratio*) interact with the melodic and rhythmic

embellishments (*decoratio*) that realize them as musical surfaces. This flexible interaction connects rather essentially to the physicality of improvising at the keyboard, which lends kinesthetic credence to the tripartite memory apparatus presented in this chapter.

Chapter 3 offers a much-needed account of the intersection between *elaboratio* and *decoratio*, exploring in detail the ways in which skeletal voice-leading frameworks and techniques of applying melodic and rhythmic diminution interact. It is the precise nature of this hierarchical intersection—how one is embellished by the other—that determines the generative power of learned improvisational techniques and patterns. The chapter reexamines the seventeenth- and eighteenth-century German tradition of melodic figures (i.e., *Figuren*) through a decidedly pragmatic lens, understanding the figures not as affective gestures, and not even as motives, but rather as easily learned and maximally economical improvisational tools. Thus, this chapter complements the to-date better codified research on the *elaboratio* progressions themselves (e.g., *partimenti*, thoroughbass) by investigating how their constituent voice-leading structures can be rendered in a huge variety of ways by means of improvisationally relevant diminution techniques. After a brief discussion of early precedents (e.g., Paumann and Sancta Maria), the chapter explores the diminution pedagogies of Printz, Vogt, Niedt, and Quantz. It then offers the first detailed exposition of the mostly neglected, but hugely significant pedagogy of diminution presented Michael Wiedeburg in the third volume of his *Der sich selbst informirende Clavierspieler*. His application of melodic figures to voice leading

structures far surpasses those of earlier authors in its sophistication, and he includes unprecedented improvisational treatments of invertible counterpoint, rhythmic displacement, and compound melody. The techniques of Wiedeburg and others are employed in sample improvisations, demonstrating the extraordinary breadth and sophistication of musical surfaces that result from such an economy of means, in the form of just a few eminently learnable but enormously powerful techniques.

Chapter 4 applies the same three-tiered model to imitative improvisation, particularly fugues and canons. Indeed, although the combination of contrapuntal lines may seem to pose entirely different challenges from progressions based in thoroughbass, these challenges can—and must—be solved in advance by an improviser and learned as patterns to be applied in real time. With respect to fugue, the chapter shows that the skills taught by the *partimento* fugue of the later Baroque were not entirely new, but rather constituted part of a continuous lineage that reached back into the Renaissance. Moreover, it investigates the plausibility of improvising fugues without the assistance of a *partimento* shorthand, and proposes a format for fugal *elaboratio* patterns that would support this type of improvisation. Analysis of a fugue by Buxtehude demonstrates the application of fugal improvisation techniques. With respect to canon, the chapter brings together and extends recent work in order to synthesize the methods needed to link melodic shapes with imitative potentials in improvised canon. For both canon and fugue, sample improvisations elucidate the pedagogical benefit of studying the imitative methods employed by teachers of the Baroque.

Chapter 5 shifts the focus from the treatises and improvisations of the Baroque to the ways in which they can inform a modern-day curriculum for stylistic keyboard improvisation. It offers a potential starting point for a pedagogical approach that capitalizes on the model and the primary-source research of the preceding chapters, beginning at the bottom of the improvisational hierarchy (i.e., *decoratio*) with ground basses, and working toward the top (i.e., *elaboratio* and then *dispositio*) with minuet improvisation, thereby cultivating the skill of choosing appropriate voice-leading progressions to realize a predetermined set of waypoints (e.g., cadences, modulations, sequences, etc.). Finally, it takes an important step toward understanding variation technique improvisationally by teaching students to riff on existing pieces by Buxtehude. Distinct approaches encourage the conceptual separation of *decoratio* variations (i.e., different surface manifestations of the same underlying voice-leading framework) from more complex *elaboratio* variations (i.e., different voice-leading progressions that realize the same set of long-range improvisational goals), thereby cultivating improvisational fluency and awareness.

Of course, this is not an exhaustive study of the pedagogy of keyboard improvisation in the Baroque; there are many sources, and even some entire traditions, that are not discussed here. The goals of this research are to establish a clear conceptual framework for understanding how an improviser could learn the patterns and techniques relevant to the practice of this art and, more importantly, how he or she could apply these in a way that facilitates the fluent and infinitely varied generation of improvised music. Along the way, this study synthesizes some

important traditions that had been discussed only in terms of individual sources, reformulates our understanding of improvised diminution technique, and fills in crucial gaps by examining sources by authors such as Wiedeburg. As such, it takes an important step toward coming to grips with the pedagogy, the practice, and the products of keyboard improvisation in that time and in our own, and opens up several avenues for further exploration.

Chapter 1: Improvisation and Expert Memory

"[T]here was an important part of improvisation not easily indicated or conveyed by its results, a part which perhaps only those involved in doing it seemed to be able to appreciate or comprehend."[1]

What is "Improvisation"?

We are interested here in certain trends of improvisational pedagogy during the German Baroque, but we must begin quite broadly, for a study of improvisation demands a definition of it. To capture improvisation as "playing without planning in advance" would be correct only if the planning were restricted to the sort that classical musicians often do—namely, the rehearsal of exact musical events in the fixed order in which they will occur—but this would overlook the very essence of stylistic improvisation as well as the most important aspect of its acquisition and practice.[2] Most of us would probably agree that improvisation involves some kind of unwritten generation of music in a real-time environment, but in trying to distinguish between improvisatory activities and non-improvisatory ones, we inevitably confront several difficult questions: Does improvised necessarily mean unplanned?[3] Must an improviser invent material spontaneously, or can he or she assemble and apply previously invented material in the act of performance? Does it count as improvisation simply to execute a more-or-less preassembled structure? What is the role of practice? Is improvisation more than embellishment, ornamentation, elaboration, and decoration?[4] Are improvisation and composition mutually exclusive?—that is, can improvisation take place outside a real-time environment, or composition inside it? Can improvisation ever include a written component, and can composition exist without one? What is the opposite of improvised? Of course, the

answers to many of these questions are style- and medium-specific; improvisation is probably best defined as a prototype that tends to exhibit several features but need not exhibit all of them in every case. We must take care, however, not to adopt an overly restrictive definition that ignores the *how* of improvisation in favor of the *what*. After all, we would like to know not only what improvisation *is*, but how it is *done*—what it involves—and to investigate the craft of an improviser. Which skills are required of such a person, and how are these learned?

In determining what it means to improvise, one must be careful to attribute enough, but not too much, to the performer—that is, to acknowledge the full extent of improvisational craft and treat improvisations as such, while avoiding a definition that makes the teaching and learning of this craft implausibly difficult. Until fairly recently, the separation between improvised and written music (or, between improvisation and composition) was generally regarded as quite clean. Perhaps beginning with Mattheson's complete redefinition of Kircher's term *stylus fantasticus* as boundless and whimsical fantasy, as opposed to the subconscious recall of memorized patterns,[5] improvisation had become dissociated in many accounts from the application of familiar musical idioms and indeed from the act of performing from memory. One of the most naïve definitions appears in the Oxford Dictionary of Music, in which an improvisation (or extemporization) is understood as "a performance according to the inventive whim of the moment, i.e. without a written or printed score, *and not from memory*."[6] This definition seems to rely upon an impoverished conception of musical memory that is literal, serial, and married to

every detail of a particular memorized work; it is certainly true that playing from *this* sort of memory, in the note-for-note sense in which classical musicians think of memorization, is no more an improvisational behavior than is performing a theatrical play with one's lines memorized.

The type of improvisation to be explored here is that which Derek Bailey calls "idiomatic" improvisation—the kind that expresses a style such as jazz, Hindustani music, Baroque keyboard music, etc.[7] Idiomatic improvisation *necessarily* relies upon memory, albeit in a far more nuanced and flexible way than the one mentioned above. To remove memory from the act of improvisation requires that the latter be unconstrained, unwritten, and unplanned all at the same time, at once oversimplifying it and rendering it nearly impossible to learn. The central premise of this study is that the pedagogical plausibility of improvisation, including improvisation of complex structures such as fugue and canon, rests upon the memorization of flexible and widely applicable patterns and techniques. When classical musicians feel that they cannot learn improvisation, it is because they understand improvisation as precisely the opposite—namely, as an unlearned, almost magical gift possessed by a rare few.

Revisions of the inherited notion of improvisation acknowledge the problems caused by denying preparation, and of drawing a stark contrast between it and notated music. As Arnold Whitall notes, "[a]s is often the case with categorizations in music…absolute distinctions between improvisation and non-improvisatory activities cannot be sustained."[8] Recent studies by David Schulenberg, Stephen Blum, and Steve Larson, for example, have explored the indispensable role played by memory—

and specifically by pre-learned patterns—in the act of improvisation. Larson, in fact, turns the traditional distinction on its head for jazz, advocating for viewing composition as the freer and improvisation as the more patterned and rule-bound of the two activities.[9] In addition, recent work by Anna Maria Berger, Peter Schubert, Jessie Ann Owens, Michael Long, and others has suggested the ubiquity of memorization in musical learning across a wide variety of time periods. Moreover, scholars such as Robert Gjerdingen, Giorgio Sanguinetti, William Renwick, and Edoardo Bellotti have spurred a recent resurgence of interest in the particular art of keyboard improvisation during the Baroque—and, although opinions differ as to exactly what constituted a musical pattern or formula, accounts of improvisational learning unanimously emphasize the application *in* real time of memorized patterns that were learned previously and *out* of real time. As David Schulenberg has remarked, "It should be self-evident that all improvisation is, to some degree, prepared ahead of time and is controlled by convention and conscious planning."[10]

Improvisation for the Baroque keyboardist could, conceivably, include a wide spectrum of activities, ranging from the surface-level ornamentation (i.e., addition of turns, mordents, trills, etc.) of an existing piece, through the diminution of a skeletal voice-leading framework into a musical surface, to the achievement of basic improvisational waypoints (e.g., cadences and modulations) by means of corresponding progressions, and even to the entirely spontaneous (i.e., moment-to-moment) creation of an entirely new piece. However, each of the two extremes misses the most substantial aspect of improvisational craft; lying somewhere between

them is the process by which a performer relies on a well-developed memory of basic layouts for types of pieces (e.g., preludes, binary-form suite movements, praeambula), flexible voice-leading frameworks, and diminution techniques to solve problems in a real-time performance environment and improvise pieces of music. It is this middle territory of the improvisational spectrum that warrants the most interest as well, for it is cognitively accessible enough to teach, while still formidable enough to demand clever and diligent learning methods for its mastery.

Aside from defining improvisation as an act, the word is also fraught with implications of the distinction between so-called improvisatory and so-called learned music.[11] Many compositions, though not strictly *improvised*, can wear an *improvisatory* guise by presenting themselves as spontaneous and unrestricted—or even by being performed in such a way. (One thinks immediately of the unmeasured preludes of Couperin, for example, or of the opening, non-imitative sections of toccatas and praeambula.) Conversely, improvisations of fugue, variation sets, fantasies, and many other genres might impress us insofar as they wear the countenance of painstakingly crafted written works, by exhibiting the deliberate planning and logical construction associated with the aesthetic of these. Even excluding aesthetic differences, it is difficult to imagine improvisation in complete isolation from some reference to certain stylistic and formal constraints—and, moreover, every musician experiences the improvisatory potential latent in every written composition, whereby the performer strives to enliven the music to such a degree as to convey an air of moment-to-moment discovery. Derek Bailey has

pointed out that, at least for idiomatic improvisation, the marriage of the fixed and the improvised is quite a natural one—and, if we consider non-western musical cultures, placing such a hallmark of music-making in the service of a written tradition is entirely wrongheaded: "In any but the most blinkered view of the world's music, composition looks to be a very rare strain, heretical in both practice and theory. Improvisation is a basic instinct, an essential force in sustaining life….As sources of creativity they are hardly comparable."[12] Hence, there is a great deal of bleed between the characteristics that we associate with improvisation and those that we associate with other kinds of music making.

Putting aside whatever value judgment the words may carry, improvisation is a *craft* as well as an *art*—that is, a learned, concrete task that has novices, practitioners, experts, and masters, each with definable differences in skill level.[13] Schoenberg's famous statement in *Harmonielehre* about the craft of composition speaks to exactly the pedagogical methodology at hand in our discussion of improvisation, namely one that teaches the concrete tools of the *trade* rather than relying upon vaguely defined notions of inspiration:

> If I should succeed at providing a student with the craftsmanship of our art as completely as a carpenter could do so, then I am content. And I would be proud if I were able to say, to vary a familiar expression: "I have taken from composition students a bad aesthetic, but given them a good lesson in handicraft in return."[14]

Despite Rob Wegman's assertion that the actual act of improvisation, with its explicitly unwritten evanescence, is "one of the subjects least amenable to historical research,"[15] this is, fortunately, far less true for its pedagogy and its fruits (i.e., written-out improvisations) than for the act itself. The primary goal here is to learn—

in addition to how one improvises—how one *learns* to improvise, and how one acquires the requisite skills.

I am focused more narrowly on the improvisation of keyboard music in the German Baroque—how it was taught, learned, and practiced, primarily from the late seventeenth through the mid-eighteenth century, but extending somewhat in each direction due to certain important pedagogical continuities with earlier and later techniques. I ask the following questions: What were the musical patterns that were taught by keyboard masters and treatises of the German Baroque, and how did the memorization of these patterns equip a keyboard player with the techniques needed to improvise? How did one's memory need to be organized in order to foster the pattern-based generation of novel and tasteful musical material, rather than simply the reproduction of literally memorized excerpts? How does an understanding of improvisational techniques assist our engagement with improvised keyboard works that survive in written form today? And finally, to what extent can these techniques be used today as a way into the learning of historical improvisation? An understanding of keyboard composition in the German Baroque requires an understanding of keyboard improvisation, and to understand that, we must come to grips with the particular pedagogical techniques employed.

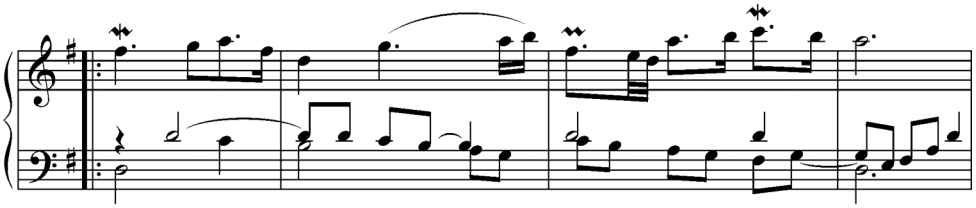
To provide a context for these pedagogical techniques, I will first discuss some research on cognitive aspects of improvisational learning and performance. Recently, improvisation has been understood as an act of problem solving in which unique potentials are realized in the moment of performance as the performer

responds to unforeseen challenges and opportunities.[16] In order to draw a more concrete link between these general terms of expertise and the specific tasks faced by a keyboard improviser, I will first present some examples of improvisational challenges and the opportunities that they provide. The first two measures of the second reprise of J. S. Bach's sarabande, from the French Suite in G major, appear below:

Figure 1.1. J. S. Bach, French Suite in G major, sarabande, beginning of second reprise

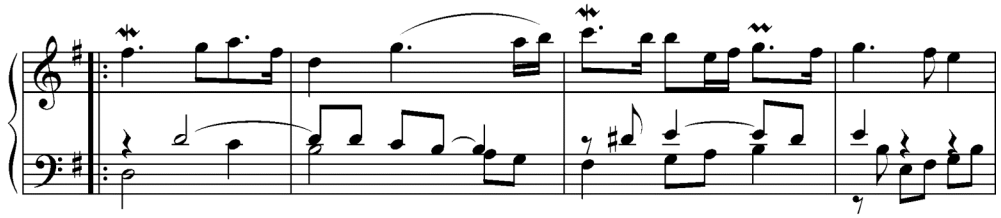
After a first reprise that established the tonic key of G major and then modulated to and confirmed the dominant, the second reprise is tasked with providing tonal contrast and then preparing the eventual return of the tonic key. It begins on the dominant that has been confirmed just before the repeat sign, which, imagined from the standpoint of an improviser, offers a problem to be solved: How much tonal contrast should occur here before the return to tonic? One kind of improvisational opportunity is offered by the possibility of a very short dominant prolongation that ushers in the tonic return quite soon. This opportunity can be realized by the following contrapuntal progression, for example, embellished by means of the textural and motivic character of the rest of the piece:

Figure 1.2. Sample Improvisation of Short Dominant Prolongation



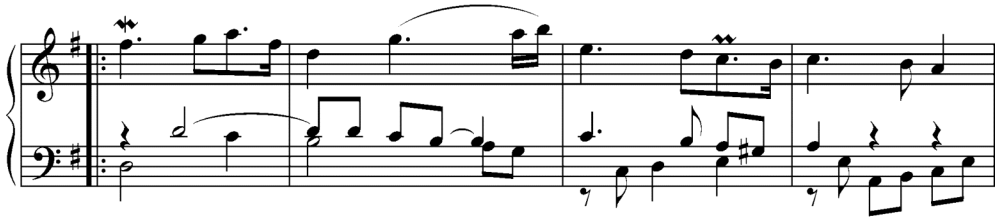
While it constitutes a successful dominant prolongation and half cadence unto itself, this option is decidedly unsuitable, given the much longer proportions of the first reprise; to balance them, more time is needed to explore other closely-related keys before returning to tonic. A different sort of improvisational opportunity is offered by the possibility of modulating to one of these keys, such as E minor (vi), which is accomplished through the contrapuntal introduction of D-sharp as a leading tone and then a cadential confirmation:

Figure 1.3. Sample Improvisation of Modulation to E minor



Or, as in Bach's original, the modulation could be to the supertonic key of A minor, which is achieved by means of a similar cadential confirmation:

Figure 1.4. Sample Improvisation of Modulation to A minor

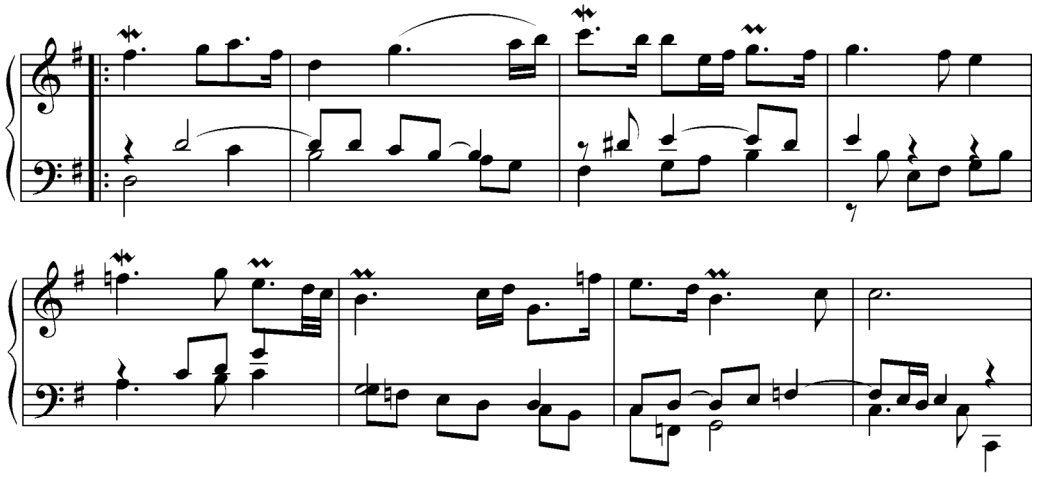


Crucially, an expert improviser would have at his or her disposal voice-leading progressions that would offer an assortment of options for continuing after the second

measure—some that would remain in G and reach a half cadence, and some that would modulate to other closely-related keys (such as vi and ii, as illustrated here).

Each of the improvisational paths taken above poses further challenges to be solved. If the first phrase modulated to E minor, then a convincing tonal path might continue to C major (IV). Again, a performer's mastery of characteristic voice-leading progressions would provide opportunities for making this choice in real time. Here is a sample version that continues to C major by introducing the Phrygian F-natural in E as preparation for a long dominant and then cadence in C:

Figure 1.5. Sample Improvisation of Tonal Motion from vi to IV



Or, if the first four measures had modulated instead to A minor (ii), as Bach did, the path of tonal return might be somewhat longer, moving through E minor (vi) and *then* C major (IV), as he does. Indeed, he also employs the Phrygian F-natural in E minor as a conduit into C, although as part of a different contrapuntal progression than in the example above:

Figure 1.6. Sample Improvisation of Tonal Motion from ii to vi to IV

Returning to the issue of proportion, the challenge facing the improviser after the return of tonic is to provide an ending to the sarabande that properly balances—but does not overbalance—the length of the path taken before it. In the case of a shorter digression (e.g., visiting vi and then IV), a straightforward and succinct final phrase is probably appropriate, as illustrated below:

Figure 1.7. Sample Improvisation of Entire Second Reprise (short)

On the other hand, if the path toward the return of tonic is more circuitous, then it is perhaps necessary to make use of the opportunity to extend the ending somewhat, as Bach does. At the moment where a final cadential progression in G can begin (corresponding to the second-to-last measure of Figure 1.7), he forgoes this opportunity by initiating a tonicization of the dominant and a grand half cadence; this necessitates an additional phrase that allows the registral and rhythmic climax of the piece to take place prior to the eventual settling upon a final cadence:

Figure 1.8. Sample Improvisation of Entire Second Reprise (longer)

The sensitivity needed to make the decisions discussed above—to respond flexibly and in real time to the challenges faced during improvised performance—relies upon one's mastery of the patterns and techniques that would provide the opportunity for a fluent pursuit of *whichever* option is chosen.[17] In the case above, the patterns and techniques would consist of pre-learned contrapuntal structures for reaching cadences, prolonging a key or its dominant, and modulating among

closely-related keys. Improvisers can learn to predict the sorts of challenges and opportunities that may arise in performance, and train themselves to be extremely skilled at adapting to them; as Stephen Blum explains, "performers are almost never responding to challenges that were *entirely* unforeseen."[18] A search for the methods by which a talented and diligent student could have learned to foresee these challenges invites a thorough investigation into the pedagogy of keyboard improvisation, in order to improve our understanding of both and to lay the groundwork for a modern-day method of stylistic improvisation.

Improvisation as Expert Behavior

"The ability to improvise has long been regarded as one indication of good musicianship, but the skill it represents has as much to do with memory as with genuine creativity."[19]

Our desire to align the specific tasks of keyboard improvisation with the acquisition of this craft requires a model of improvisational learning that both accurately captures and fruitfully enables the development of expertise at this skill. As a starting point, improvisation is just one of many activities that lend themselves to being understood from a cognitive-psychological perspective as systems of expertise. Psychologists have generalized a set of characteristics of expert behavior (in contrast to novice behavior), which apply across a wide variety of domains, from chess playing to physics to musical performance. Overwhelmingly, the distinguishing traits of experts pertain to their methods for processing, remembering, and applying domain-specific information:[20]

Figure 1.9. Characteristics of Expert Behavior

1. Experts excel mainly in their own domains.
2. Experts perceive large and meaningful patterns in their domains.
3. Experts are fast; they are faster than novices at performing the skills of their domains, and they quickly solve problems with little error.
4. Experts have superior short-term and long-term memory.
5. Experts see and represent problems in their domains at a deeper (i.e., more principled) level than novices; novices tend to represent problems at a superficial level.
6. Experts spend time analyzing problems qualitatively.
7. Experts have strong self-monitoring skills.

Potential applications of these traits to musical expertise—and specifically to improvisational expertise—are immediately apparent, particularly in the cases of numbers 2, 3, 4, and 5 above, which deal with pattern recognition, fluency, memory, and types of mental representations, respectively. (One could also point to number 7 as a hallmark of the highly disciplined, efficient practice regimens of improvisers; the highly self-analytical jazz pianist Bill Evans comes immediately to mind here.) Experts recognize relevant patterns, and therefore perceive stimuli in larger and more meaningful units than novices do; expert improvisers notice patterns in music and conceive of musical units in large spans (e.g., entire voice-leading structures and phrases, rather than individual notes).[21] Experts notice a richer set of interrelations among concepts, so they can memorize new information efficiently by linking it with relevant knowledge that they already have; resonant with this, improvisers notice the similarity between new musical structures and ones that they already know, so learning is a hierarchical process of integration and assimilation, rather than a serial one of accumulation.[22] Such a network of associations is crucial for an expert improviser, since a given musical situation (such as the one discussed above) often invites several possible solutions that all share some aspect in common with one another; a memory full of cross-references ensures that the recall of one such solution

will trigger that of all relevant ones, thereby endowing the improviser with great facility, fluency, and flexibility.

The aspects of expert behavior that seem to bear most directly upon our desired conception of improvisation are those having to do with memory—its hierarchical nature, its cross-referential capacity, and its organization into more meaningful (and fewer) units rather than less meaningful (and more) units. Here, Stephen Blum's notion of foreseeable improvisatory challenges can be defined in terms of the skill set required to predict and solve musical problems and to extemporize music fluently. Deliberately structured practice provides the environment in which the improviser can pre-solve problems and learn techniques and patterns to be applied in real time, all of which serve the ultimate purpose of cultivating a well-organized, richly interrelated, and instantaneously accessible memory of musical ideas.[23] The simulated improvisatory experience discussed above, with respect to Bach's sarabande in G major, makes clear how fluent and varied one's knowledge of patterns must be—and how large and meaningful each of these patterns must be as well—in order to provide enough improvisational choice for higher-level issues of taste, proportion, and persuasion to have any meaning at all to an improviser.

The terminology of expert behavior offers a rewarding vantage point on the learning and performance of keyboard improvisation, but only if the meaning of expertise is appropriately tailored to the peculiarities of improvising music, and of doing so *at the keyboard*. Scholars have indeed posited cognitive models specific to

the task of musical improvisation, which focus on the same skills of patterning, memory, and fluency that form the cornerstones of the more general, psychological accounts of expertise discussed above.[24] None of these offers an entirely satisfactory apparatus for applying these concepts to keyboard improvisation, but they are all suggestive of crucial elements that must play a role. Jeff Pressing addresses the nature of these formal models and generative materials specifically, with two structures that he calls a referent and a knowledge base.[25] A referent is a template (e.g., a ground bass, or a voice-leading structure, or a set of chord changes in jazz) that pre-segments (or, in Gestaltist terms, chunks) the music, thereby offering a cognitive grid for organizing and interrelating learned patterns as well as a standard by which to reckon the specific choices made in improvisation. A referent reduces the moment-to-moment need for decision-making, since performers will have practiced idiomatic patterns in association with a particular referent, such as voice-leading patterns over a particular ground bass, or motivic embellishments to a common cadence formula. (In the case of collaborative improvisation, it also allows multiple improvisers to be on the same page with regard to what happens next.) If a referent is an improviser's skeletal play list, then a knowledge base is his or her conversational vocabulary, which includes excerpts from previously performed repertoire, finger or hand positions (i.e., so-called muscle memory), and so on. Expert improvisers have larger and more intricately cross-referenced knowledge bases, which allow them to envision multiple paths in anticipation of the need to

apply one of them, and to luxuriate in the option of which path to take; indeed, this foresight (or "time to think," one might say) is a hallmark of a good improviser.

There are considerable advantages to Pressing's model, namely that it draws an explicit, hierarchical distinction between musical formulas and the situations in which they apply, thereby representing a situationally specific approach to idiomatic improvisation. However, Pressing is not precise enough as to the nature of an improvisational referent: A set of chord changes in jazz suggests a beginning-to-end series of events (though unclear as to their status as specific voice-leading or just general harmonic descriptors), while the idea of a template seems more like an ordered series of waypoints without a specific path between them. Likewise, his knowledge base does not sufficiently distinguish between specifically memorized musical excerpts, generic (i.e., widely applicable) progressions, and techniques for generating these. I consider it vital to distinguish between generic voice-leading and more specific diminution techniques, for the latter operate on a hierarchically lower level than the former does. So, Pressing's two-part model of knowledge base and referent seems to consist of too few hierarchical levels, and therefore lacks a precise definition of their interaction; we need more than just two stages to map out a proper model of improvisational learning and performance.

Nonetheless, a basic point of view on musical improvisation can be taken from Pressing, namely as a hierarchical interaction between improvisational situations and pre-learned generating principles. Of course, the process of assembly implied by this perspective is one of utmost sensitivity for an expert improviser—indeed, a great

deal of artistry resides in the ways in which memorized patterns are ordered, connected, varied, and elaborated, and especially in the way in which they are *selected* from a palette of multiple outcomes envisioned by the improviser. Beyond the cognitive tools applicable to improvisation in general, keyboard improvisers may also take special advantage—both visual and tactile—of the unique landscape of the instrument. Since the entire keyboard is always both physically present and visible in its entirety, musical structures may be internalized via several simultaneous learning strategies, including aural, visual (i.e., seeing physical patterns and distances), kinesthetic (i.e., feeling these patterns and distances in muscle memory), and cognitive (i.e., forming abstract mental representations of the structures). The map-like correspondence of the keyboard landscape to the logarithmic pitch structure employed by staff notation also forges connections across several of these learning strategies. While aural and cognitive modes are possible in any musical situation, and kinesthetic learning on any instrument where physical motions of the body map directly onto the musical notes produced, it is the visual aspect of keyboard playing that sets it apart.

David Sudnow focuses on this keyboard-specific learning technique as he plays the roles of both subject and observer in an examination of his autodidactic approach to jazz piano playing. The result is peculiarly naïve—Sudnow, a social anthropologist, focuses on musical minutia far more painstakingly than a trained reader needs—but nonetheless provocative, as his outsider status positions him to observe his practice habits and learning path more acutely than a jazz pianist who

learns by intuition, practical experience, and private study, as most do. As an anthropologist, Sudnow is trained to observe and report on exotic modes of learning; in this study, he simply trains the anthropological apparatus on himself and his "hand."

Two aspects of Sudnow's presentation are especially striking for their similarity both to the cognitive accounts of improvisation discussed above *and* to the type of language used by seventeenth- and eighteenth-century authors to teach keyboard improvisation. First is the *entirely* kinesthetic—even somatic—approach that he takes to improvisational creativity: "I didn't know where to go. It seemed impossible to approach this jazz except by finding particular places to take my fingers."[26] Beginning with scales and chords as "grabbed places,"[27] a formulation that bears striking resemblance to the *Griffe* used in figured-bass treatises to teach accompaniment through hand positions (i.e., the three right-hand shapes for a 6/5 chord), Sudnow moves to hand positions and develops a stash of such places to go—in effect, a vocabulary of pre-navigated routes to lend organization to his playing. The culmination of this mode of learning is the achievement of a subconscious unanimity between one's cognitive intent and one's physical capabilities.

Secondly, Sudnow's progression of learning to play jazz follows a path toward mastery in which, as expertise is built, information is grouped into ever larger and more meaningful units. From individual notes and chords, gestures emerge as shapes to be conceived as entities: "[N]ow my hand didn't always come into the keyboard for a first note and then a second one in particular, but would, as well, enter

the terrain to take a certain essential sort of stride."[28] Over the course of his book, Sudnow essentially describes a bottom-up progression that could be understood abstractly in any musical style, or even in other disciplines (such as linguistics): from the note-to-note building blocks of sound in this style, to the smallest meaningful gestures of jazz, to longer phrases, and finally to an entire discourse. Thus, Sudnow's inclusion of more than just two hierarchical levels offers a finer gradation of improvisational patterning than Pressing does, although Sudnow's empirical and unsystematic account fails to codify exactly what each of these levels means. An adequate model of keyboard-improvisational learning must be a great deal more specific about the types of structures learned and the way in which they interact. Moreover, Sudnow's entirely bottom-up learning process is shortsighted, for it discounts the benefit of learning large-scale trajectories and improvisational goals as entities themselves, beyond simply as combinations of the smaller and less meaningful units. In other words, improvisational learning can be far more efficient than it was for Sudnow, provided that the student *simultaneously* assimilate long-range layouts, mid-range skeletal progressions, and local strategies for applying diminutions to these.

Derek Bailey trifurcates improvisational practice habits in a way that suggests a more efficient learning process, although his three practice categories lack a hierarchical organization altogether. In addition to the normal technical practice that any musician would do in order to remain "instrumentally fit," he describes "exercises worked out to deal specifically with the manipulative demands made by

new material. These have a bearing on the material being used and if that changes they also have to change."[29] This description resonates well with Stephen Blum's characterization of improvisational practice as the prediction and pre-solving of problems to be faced in performance; Bailey suggests these same tasks as the very essence of practice for an improviser. He also mentions something similar to Pressing's referent—a template that both determines the structures needed for a particular type of improvisation and contextualizes those in memory. Bailey's third element of practice is 'woodshedding,' a performer-specific simulation of improvisation that serves as a bridge between technical practice and actual performance. This is the only one of the improvisational models mentioned that explicitly includes such an applied phase of learning. Although I consider rehearsal as separate from improvisational learning, for it is actually a preparatory form of performance rather than a mode of learning new techniques and patterns, it is nonetheless an indispensable practice habit. Aside from cultivating fluency, of course, varied practice also assists the interrelatedness of multiple options that can all accomplish the same improvisational goal or task; one thinks of practicing the same first reprise to a minuet over and over, attached to a different second reprise each time, in order to rehearse the options for sequence types, modulations, and phrase structures that could all potentially follow the same opening.

In his recent work, Robert Gjerdingen draws a provocative analogy between musical improvisation and the hierarchy of events in a *commedia dell'arte* plot, saying that larger-scale formal demands are met by means of more local idioms. This

picture of improvisation is very suggestive, but Gjerdingen does not sufficiently discuss the specifically musical demands of large-scale form that would distinguish between musical schemata and the improvisational function that they fulfill; as a result, he does not say enough about the crucial element of improvisational choice among several options that could all accomplish a similar task. Instead of highlighting this flexibility, his analyses tend to focus more on the sequence of events that takes place in a piece of music (akin to the combinatorial nature of musical discourse in the Galant as a series of stock gestures). I believe that a hierarchy specific to musical improvisation must show an essential progression from one event to the next in terms of a global plan of improvisational waypoints that transcends the patterns themselves. One advantage of allowing a larger number of less distinctive formulas, rather than relatively few idiomatic schemas as Gjerdingen does (an issue to be addressed in more detail in Chapter 3), is that it lays a foundation for a more flexible, one-to-many interaction between *what* the goal of a section of the improvisation is (e.g., modulate to the dominant) and *how* (i.e., by means of which of the often large assortment of learned patterns) that goal is accomplished. Gjerdingen also does not explicitly discuss the diminution techniques needed to render a particular musical pattern as a wide variety of specific musical utterances, a process that I consider hugely important to improvisational technique.

Although some of the improvisational models discussed above acknowledge a role played by hierarchy, none of them defines the various levels and their interaction precisely enough to show how an improviser learns to *generate never-before-played*

musical utterances, rather than simply reproducing patterns or 'licks' exactly as they were learned. I think of an improviser's memory as a rich apparatus with the capacity to create a virtually limitless stream of novel, yet stylistic musical utterances. The only way for a memory to do this, while still maintaining the economy of means necessary to make improvisation learnable, is by relying upon a multi-tiered process of generation: For example, a broad layout for a piece establishes improvisational goals, which are reached by means of generic patterns that are themselves realized as specific surfaces through the application of diminution techniques. Granted, the master improviser is able to focus on high-level issues of musical taste, expression, and even rhetorical persuasion, since the more mundane aspects of note-to-note and unit-to-unit ordering can often be handled more-or-less subconsciously. However, it seems unsatisfactory to relegate *all* aspects of lower-level pattern assembly to something like muscle memory, for these rely upon quite specific and beautifully flexible techniques and processes. A system is needed that incorporates this bird's-eye view while still specifying the ways in which the locally particular, the schematically generic, and the navigationally broad interact with one another. After all, it is the flexible, hierarchical nature of this interaction that makes improvisation a generative act and not simply a regurgitative one.

To study the acquisition of improvisational skill is to determine the nature of the musical patterns learned, the strategies for ordering these into a complete musical utterance, and the techniques for rendering these as a particular piece. The next chapter will address this issue specifically, offering a powerful yet simple hierarchy

to categorize both the learning and the performance of improvisation—one that can accommodate the various approaches taken by treatises to teach improvisational methods, as well as lay the groundwork for understanding improvised pieces generatively.

Historical Treatments of Improvisation

Across the history of western music, improvisation has almost always been an essential part of musical performance and musical composition (which were often one and the same), and of their pedagogies. Remarkably, historical accounts of improvisation treat its acquisition similarly to how modern psychological accounts do. Whether in the Middle Ages, the Renaissance, or the Baroque, improvisation was a skill whose acquisition began with the cultivation of a specialized and hierarchically referenced memory of patterns, progressed to a mastery of and fluency with these patterns, and culminated in their deft assembly and application in the real-time environment of performance.

It is important to note, however, that not all historical treatments of musical memory were improvisational: While the memorization of patterns and principles served the acquisition of compositional and improvisational skill, the literal memorization of musical excerpts—assisted by mnemonic devices—served only the preservation and non-improvisational performance (i.e., reproduction) of that which was memorized. With respect to the music of the Middle Ages, Anna Maria Busse Berger explores memory-as-preservation in great detail, focusing on the huge role

played by mnemonic devices and visual learning; systematic organizational strategies constituted the key to the memorization, retention, and quick access of information.[30] The notion of *divisio*, advanced by the classical rhetorician Quintilian, advocated for the hierarchical categorization and sub-categorization of information into manageably small units, applying an organizational scheme to aid in memorization and recall.[31]

Despite the importance of memory-as-preservation, the historical trend that is more germane to improvisation is that of memory-as-generative-tool, and there is considerable historical precedent for this sort of memory as well. The distinction is crucial, for improvisation is far more nuanced than a replaying of memorized excerpts. Leo Treitler speaks to exactly this distinction, calling the latter "performance on the basis of an improvisatory system" and the former "performance from memory."[32] A rich improvisatory system requires a substantial memorial apparatus far more nuanced than an encyclopedic storage facility of excerpts to be reproduced verbatim; that is, mnemonics are not enough, and must be supplemented by a supple technique of varied application. The apparatus must be a hierarchical one in which flexible, general, upper-level patterns link with more specific, elaborative, lower-level ones; this is what allows the improviser to *generate* music, rather than simply to *preserve* it.

It would be worthwhile to consider what we know about the training and usage of improvisational memory prior to the Baroque. For example, the learning process for students of medieval music began with the memorization of consonance

tables, and then moved on to the memorization of formulas for note-against-note counterpoint. Berger describes the practical value of committing these to memory:

> Consonance tables function in exactly the same way as multiplication tables. Not only do they look the same, they were systematically memorized. Similarly, musicians from the thirteenth through the sixteenth centuries memorized interval progressions. Thus, they had all of this musical material easily available at the tip of their fingers. Just as Renaissance merchants were able to do complex computations in their mind, Renaissance musicians were able to work out entire compositions, because they had all possibilities readily available in their storehouse of memory.[33]

Peter Schubert's account of counterpoint pedagogy in the Renaissance also has an improvisational slant, stressing (as Berger does) the building-block status of basic rules and contrapuntal formulas. Just as oratory requires an absolute fluency with grammatical sentences, so does musical composition require a mastery and memory of contrapuntal formulas:

> The lengthy itemization of permissible contrapuntal progressions found in many of these treatises, although appearing tediously didactic and uneconomical to us today, were probably intended to provide the singer with a menu of formulas to be memorized that could then be called upon in improvisation.[34]

Schubert notes that improvised activities were not always oriented toward the goal of producing pieces that resembled finished compositions, but were sometimes meant only to instill "a vocabulary of consonances underlying all contrapuntal textures and genres."[35] He shows that even those formulas that appear to us as 'learned' devices (e.g., canon and invertible counterpoint) were routine to composers, and were part of the improvisational vocabularies of keyboardists and singers.[36]

The memorization discussed by Berger and Schubert represents the desire, on the part of musicians, to create a long-term working memory (LTWM) of patterns and problem-solving techniques. For someone with an expert-level LTWM, the process of composition was then to choose from among the memorized patterns appropriate to

the improvisational situation (e.g., an ascending step in the cantus firmus calls for a descending third from an octave above, or a descending step from the fifth above, or an ascending step from the third or sixth above, etc.), and to apply one of the memorized florid elaborations of this melodic interval. Obviously, the process of retrieving one of these patterns from memory is not one of rummaging through countless cases to find the right one; rather, the improvisational challenge at hand (i.e., the ascending step in this case) triggers the recall of just those options that are suitable to solving it. Just as mathematical experts would have multiplication tables, roots, squares, and cubes in LTWM, musical experts would have these sorts of formulas; for both, the memorized information allows them to solve intricate problems fluently.[37]

This same conception fits Baroque keyboard improvisation quite well; the types of formulas and their elaborations change with the style as well as with the medium (i.e., from primarily vocal to keyboard), but the concept of an improvisatory LTWM is still indispensable to our understanding of this music as a process of expert-level assembly in real time. Of course, this assembly involves far more than the real-time ordering of clichés; it is a creative endeavor that derives its sensitivity from the assortment of options available to the expert improviser at any given time. This is especially true for musical improvisation, in comparison to theatrical or oratorical improvisation, for there is no fixed plot or order of events prescribed by the story; within basic stylistic guidelines, keyboard improvisers control virtually all parameters having to do with this stitching-together process.

As suggested above, and in the work of Jessie Ann Owens, the very techniques that make improvisation plausible also make composition much more fluent, and suggest at least a blurring, if not a complete erasure, of the boundary between these two activities. As a corollary, studies of so-called composition *a mente*, or mental composition, can also inform our understanding of the techniques needed for improvisation. (After all, these are very similar activities, but for the one important difference with respect to the strictness of real-time demands placed on the creation of the music.) Owens briefly traces this hybrid process of unwritten composition through several treatises and composers.[38] Despite its obvious elusion of written sources, this "composing without writing" represents a purely mental phase of composition that composers inhabit prior to entering the written phase; it necessarily excludes sketches as well, for it is a process by which composers work out a whole piece mentally and then write it down in complete form. For example, Claudio Monteverdi compared the activity to *orditura*, the act of creating a pattern of lines on the loom in weaving—that is, in the case of an experienced composer, the whole essence of a piece is laid down *a mente* prior to the notation of even a single note.

By discussing composers' abilities to create *and remember* an entire piece that never existed in written form, Owens raises a crucial issue about the plausibility of extending improvisational (or 'compositional') memory to the scale of entire pieces. The classical mnemotechnics of pseudo-Cicero and Quintilian provide a strategy for remembering large amounts of information, but they are oriented toward the preservation of a speech verbatim, after it has already been generated. Nonetheless,

the notion of a referential background is highly suggestive of a strategy for longer-range improvisational planning, and can be reoriented from its origins in rhetorical mnemonics to suit the more flexible, generative demands of improvisation. A mnemonic background grid (such as the set rooms of a mansion, or the spokes of a wheel, or the branches of a tree) was always recalled in the same temporal order (e.g., a specifically ordered path through the rooms of the mansion), so it guaranteed that the sections of a speech would be recalled in the proper order; the images that were inserted into each locus of the background would then help the orator to recall the details of each of these sections. Regarded improvisationally, though, these background grids flesh out Jeff Pressing's concept of a referent, offering a possibility for long-range planning—namely, a partly-constant, partly-flexible layout of waypoints for some type of improvisation. Imagine an improviser who assigns a particular type of piece, such as the prelude, to a particular architectural structure, such as the first floor of a house. He then pictures himself moving through the rooms of this mansion, assigning musical events to each of the mansion's rooms: The opening *exordium* might be represented by the foyer, the initial octave descent by the kitchen, the dominant pedal by the dining room, and the tonic-confirming *peroratio* by the salon, with hallways between rooms standing for the transitional material between musical sections. The grid need not be as architecturally specific as this; it would, of course, be customized to the type of cognitive template most easily remembered by the improviser. Moreover, the *loci* of this template would be determined flexibly, according to the type of piece being improvised; it could

represent a basic series of locations for keys, cadences, modulations, and/or sequences for a minuet, for example, or a series of paired entries and cadences delineating the form of a *fantasia*. Since a grid is generic enough to encompass the normative layout of *any* piece of a given type, rather than just one specific piece, each waypoint represents one of the temporally ordered *loci* in the background template; moving through the piece (in real time, as an improviser) is tantamount to moving through the grid (virtually, in one's memory). Importantly, each of the waypoints in a template is linked to a set of learned patterns that act as alternative options for realizing the waypoint (e.g., different ways of modulating to the dominant, or different sequence types, or different tonic-prolongational progressions for the opening of a piece, or different imitative openings, etc.), and these are learned in association with the corresponding *loci* of the governing improvisational plan.[39]

David Schulenberg's model of improvisation for the Baroque keyboardist fits within a similar mold, and comes closest to a fully fleshed-out hierarchical model; in addition to variation and formula as important generative devices, he includes large-scale design as an equally important improvisational strategy.[40] He means variation, in the context of the *basso continuo* primacy of the seventeenth and eighteenth centuries, as the elaboration of a thoroughbass structure by means of diminutions—the improvisational process that resides closest to the musical surface. More fundamental than the variation, though, he says, is the establishment of a vocabulary of flexibly applied figures, flourishes, and formulas. Performers invented their own formulas as well as copied those of others, which became "modular devices that could

be inserted into almost any improvisation or composition."[41] In this sense, performance, composition, and improvisation were all rooted in the same fundamental act of keyboard musicianship, and musical formulas functioned as common parlance among all practitioners of the craft.

I agree with Schulenberg that surface-level diminution is an essential component of the improvisational picture. However, I find it overly restrictive to say that this "variation" is always of a thoroughbass structure. The same techniques of embellishing a generic voice-leading structure can be applied, without much modification, to first-species imitative frameworks as well—or, in fact, to any pre-motivic arrangement of voices. Moreover, Schulenberg does not make sufficiently clear how "formula" and "variation" interact, for his notion of a personalized vocabulary of formulas—which I like very much—includes flourishes (which are rather specifically determined melodic and rhythmic shapes) as well as formulas (which presumably govern the generation of more generic, motivically-agnostic patterns). It seems to me that, if we regard "formula" as a higher hierarchical level than surface-level "variation," the concept of a formula *must* be flexible enough to accept a variety of such variations. I differ with Schulenberg in thinking that this middle hierarchical level is about sub-surface voice leading, *not* about specific passages of music. (After all, an improviser's set of diminution techniques can be as personalized as his or her voice-leading patterns and formulas, so why restrict the idea of an improvisational vocabulary to just the formulas?)

Schulenberg's discussion of large-scale design resonates well with the highest hierarchical level that I consider essential to improvisational memory, namely the long-range layouts that govern the choice of mid-range voice-leading progressions. He, like Heinrich Koch, thinks of design as a series of cadences and modulations in a prescribed path of keys; I prefer to understand the notion of an improvisational waypoint more generally, as there are certainly pieces in which other sorts of goals would do better to define a path down which the music unfolds. For example, in a *fantasia*, the form is delineated by a series of paired imitative entries, often followed by polyphonic plenitude in four voices and a homophonic progression to a cadence; in this case, the tonal aspects of the music may not be the best way to segment the improvisational design. Nonetheless, this highest level aligns both with Pressing's "referent" and the improvisational reformulation of the "background" from classical mnemonics; that is, it is an overarching formal framework into which the more moment-to-moment patterns and formulas can be inserted, thereby merging them with the birds-eye view provided by a coherent, longer-range improvisational strategy. Such a framework is absolutely indispensable to any view of improvisation that moves beyond the confines of an individual moment or phrase.

Conclusion

The remainder of this study will address some of the primary sources that taught keyboard improvisation during the seventeenth and eighteenth centuries, focusing in particular on German sources from the late seventeenth through the mid-eighteenth centuries, and especially on those treatises that have a great deal to offer in

spite of having received less scholarly attention to date. This study does not attempt any kind of comprehensive treatment of improvisational pedagogy in the Baroque or even the German Baroque, which would be decidedly impractical, and necessarily omits discussions of many important sources. The goal is to elucidate the pedagogical methodologies of some important strands of improvisational treatises, aided by a model developed in Chapter 2 as an extension and synthesis of the cognitive and historical framework of improvisation discussed in this introductory chapter. In addition to discussing the treatises themselves, I will also apply the techniques that they teach, both as devices for understanding a variety of pieces improvisationally and as methods for learning historical improvisation today.

Studying how musicians taught, learned, and practiced the art of improvisation necessitates a view of it as an act of combination—indeed, as a subtle and seemingly infinitely varied one, but nonetheless as a process of remembering, applying, varying, and combining what one has already learned. Expert orators do not invent new systems of grammar and syntax; they skillfully find ways of combining these into persuasive utterances. Within the culture of a common musical language, an improviser's skill resides in essentially two tasks, one preparatory and the other executive—first, the assimilation and mastery (in the sense of the German *beherrschen*) of the common expressions and formulas, and second, the weaving together and varying of these formulas in real time into a convincing musical utterance. Viewing improvisation as contingent upon the application of memorized idioms does not diminish its artistry, but rather acknowledges it by elucidating what

an expert improviser has learned to do. (It may well teach us a great deal about what composers do as well, although they and improvisers have often been one and the same; indeed; even the word "composition" means, strictly, assembly from existing materials.) Peter Schubert's formulation, though specific to improvisation in the Renaissance, beautifully captures this sentiment:

> Assembling such fragments…may seem an unimaginative and mechanical approach to musical creativity. But in the sixteenth century, when rhetoric was a flourishing art and the memorization of stock oratorical formulas was basic to the education of any student, artistic originality was not understood as it is today. The application of pre-composed musical fragments was long considered a legitimate—indeed an essential—element of the composer's craft.[42]

Engaging with the methods taught by contemporaneous pedagogues—which informs us not only about the techniques in a Baroque keyboardist's improvisational workshop, but also offers us an avenue by which to learn improvisation—encourages us to enliven this music for ourselves. Improvisation was and remains a learnable skill that, despite its sometimes diffuse pedagogical record, serves as an inroad to a unique sort of musical mastery that is generative and creative as well as analytical. In this case, theory and practice both lead to the same spot, namely where analysis, performance, *musica pratica*, and pedagogy intersect.

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[1] Bailey 1991, ix.

[2] This problem is stated eloquently by Leo Treitler (1992) in his study of medieval chant transmission. He notes that any definition of improvisation hinging on the absence of preparation or pre-determination, or emphasizing the unforeseen nature of what is played, would necessarily and erroneously deny the existence of an improvisatory tradition; after all, such would be oxymoronic without these.

[3] Here, of course, the answer must be no. With the exception of so-called "free improvisation," which does exist in an aesthetic of no constraints (but obviously cannot occur in an absolute vacuum of musical style and technique), improvisation in virtually any medium relies upon learned patterns and strategies. The definition of "planning" must be broadened here, of course, beyond the note-for-note rehearsal of

an improvisation, to include the pre-solving of typical improvisational problems and the assimilation of a vocabulary of common idioms.

[4] Here, on the other hand, we must avoid the short-sighted equation of improvisation with ornamentation. The addition of very local embellishments, such as trills, is better regarded as a subset of performance practice, for the pre-existing structure (of the composer) *far* outweighs whatever colorations are added by the performer. This is not to suggest that surface embellishments are not an essential part of improvisation, just that they are but one of many hierarchically related facets of the craft.

[5] See Butler 1974 for a detailed discussion of the earlier meaning of *fantasia* as the subconscious—indeed, even automated—access of improvisational memory, traced across a wide variety of sources. Butler's contention is that the particular language used by treatises throughout the Renaissance and Baroque demonstrates a conception of improvisation, and particularly of strictly imitative polyphony, as the recall of memorized structures (i.e., *fantasias*) that are so familiar as to be accessible below the level of consciousness.

[6] Kennedy, 2006, 428-429 (emphasis added).

[7] Bailey 1992.

[8] Whittall 2002, 604.

[9] Larson 2005.

[10] Schulenberg 1995, 5.

[11] The following discussion is echoed in Wegman's article in *Oxford Music Online*.

[12] Bailey 1992, 140-1. He does, however, espouse a severely shortsighted view of improvisation in the Baroque (or, "of baroque," as he calls it), mentioning just two of the simplest forms of extemporized playing that lie well below the sophistication of even average improvisers: the application of surface embellishments (i.e., *agréments*, *passaggi*, graces, *glosas*) and the "improvisation," following Heinichen, of the remaining notes of a chord above a figured bass.

[13] See Randel 1986, 392. The entry points to the prestige that artistry tends to enjoy over craftsmanship: "In Western culture, it has usually been regarded as a kind of craft, subordinate to the more prestigious 'art' of composition." I reject this distinction altogether. Any craft can rise to the level of artistry when performed at the highest level—and besides, the aesthetic judgment of artistry occurs later than, and separate from, the practice of the craft itself.

[14] Schoenberg 1978, 12.

[15] See Wegman's article in *Oxford Music Online*.

[16] The discussion in Blum 1998 uses this language of problem-solving.

[17] Indeed, even a less improvisational view of Bach's enormous output would need to acknowledge the supreme fluency with which he was able to generate music; such fluency almost negates the distinction between compositional and improvisational accounts of this generation.

[18] Blum 1998, 27.

[19] Whitall 2002, 605.

[20] Glaser et al. 1998, summarized along with other research on expert behavior by Cooke 1992.
[21] Gjerdingen's (2007a) notion of the musical *schema* is aimed at this precise issue; by learning the stock idioms, expressions, jokes, etc. of a musical language, improvisers can engage in discourse as native speakers rather than foreigners.
[22] See Cooke 1992, 50ff. Experimental data show that experts in a given domain have superior retention capabilities for newly learned information in that domain: "High-knowledge individuals demonstrated superior recall and recognition…in comparison to the low-knowledge individuals. This superior performance was explained by the mapping of new information onto an existing knowledge structure consisting of goals, states, and actions." (See, initially, Chiesi, Spilich, and Voss 1979.) Moreover, a theory of knowledge assembly, based upon work by Hayes-Roth in 1977, claims that, as one gains experience in a subject, qualitative changes take place in one's method of assimilating new knowledge. Knowledge begins as unassociated, low-level representations, which gradually become strengthened and associated with one another; thus, as one learns more and more, a larger network of representations is activated whenever some part of it is activated. This serves to underscore the alignment of improvisation with other expert behaviors, as contingent upon the recognition of large and meaningful patterns—which, of course, requires the internalization in memory of those same patterns.
[23] Several studies of musical expertise draw explicit connections between musical expertise (improvisational or otherwise) and carefully structured practice. See Sloboda 2005, 279. Important studies corroborating the relative significance of practice over talent include Ericsson, Krampe, and Tesch-Romer 1993 and Sloboda et al. 1994, 1996.
[24] Arnold Whittall (2002) draws the connection in a very general way, stating that the improviser "can scarcely avoid relying on formal models or generative materials which, to significant degrees, constrain the musical result."
[25] Pressing 1998.
[26] Sudnow 2001, 18.
[27] *Ibid*., 12.
[28] *Ibid*., 58.
[29] Bailey 1992, 110.
[30] As Berger describes (2005, 198-99), visualization was central to the memorization of literary texts since the visually-oriented classical treatments of mnemotechnics. Music was something to be seen as well as heard; for example, visualizing a staff allowed composers to work out polyphonic compositions in the mind.
[31] See Quintilian, *Institutio oratoria*. With respect to *divisio*, Berger points out that it was the conscious imposition of alphabetical ordering in florilegia that rendered the memorization of text practical, and it was likewise the replacement of chronological ordering with an organization according to the eight-mode system that afforded medieval musicians the ability to memorize chant (67). Indeed, writing served as the most important mnemonic tool in this regard; it opened up the possibility of exact

memorization by allowing for the synchronic analysis of a whole body of information (as opposed to oral/aural analysis without writing, which is purely diachronic). In other words, writing did not eliminate the need for memorization; on the contrary, it provided new and more sophisticated ways of approaching the task more effectively (84). See also Goody 1987 and Treitler 1992 for discussions of the interdependence of oral and written modes of transmission.

[32] Treitler 1992, 146ff.

[33] Berger 2005, 149-50.

[34] Schubert 2002, 505-6.

[35] *Ibid*., 510.

[36] *Ibid*., 504.

[37] Berger (2005) explains the relevance of long-term working memory to compositional efficiency as well, even outside the real-time demands of improvisational performance: "Thus, memorization offers another explanation for how musicians could plan pieces 'in the mind' without writing them, just as we can do multiplication in our mind or a chess master can plan an entire game without recourse to paper or a chessboard" (157).

[38] Owens 1997.

[39] Both Berger and Gregory Butler (1974) apply the same mnemotechnical apparatus in a rather different, non-temporal, way to the memorization of musical patterns. As they see it, the *loci* of a background grid need not have stood for temporally ordered stages of an improvisation (analogous to the stages of a speech as per their original intent), but rather could represent different sorts of musical situations, or rules—such as imitative schemes, or interval progressions. In particular, Butler explores the notion of *fantasia* and the improvisation of imitative counterpoint, tracing a history of sources that discuss imitative polyphony as subconscious and automatic, thereby stressing the ease and fluency with which musicians were able to remember and apply learned formulas. In particular, Moritz Vogt's distinction between the naked skeleton of the sequential imitation (*phantasia simplex*) and its clothing with suitable colorations to give rise to the fuga (*phantasia variata*) suggests that the *fantasia*—the abstract framework—is more suitable for memorization, and thereby serves as a mnemonic stand-in that recalls the *fuga*. As Butler says, "[s]ince the fantasia is a bare reduction of the fuga in its finished, elaborated form, it is naturally much simpler to retain."[39] Such a distinction exactly parallels medieval music learning in the *Klangschrittenlehre* tradition, as discussed by Berger, in which singers first decided upon the rule to be applied (based upon the interval progression), and then chose from a storehouse of florid elaborations that had been learned.

[40] Schulenberg 1995.

[41] *Ibid*., 26. Gjerdingen (2007a, 2007b) uses very similar language in his discussions of improvisation, treating it as a handicraft.

[42] Schubert 2002, 528.

Chapter 2: A Model of Improvisational Learning and Performance

"We may call this activity improvisation, provided that we understand that this term denotes a kind of music making in which the essential materials of a piece are thoroughly internalized prior to performance and that notated music may play a role in this process of internalization."[1]

Chapter 1 presented evidence that the craft of improvisation relies first and foremost on the well-trained and highly specialized memories of experts. To the extent that improvisation involves the skilled assembly and application, in real time, of flexible, memorized patterns, memory must play a central role in a conception of improvisational learning. However, despite the commonalities among the memories of specialists in virtually any field, the task of keyboard improvisation is a unique one, and demands an accordingly tailored conception of expertise. Its domain is musical, its temporality inhabits a rather demanding real-time environment, and, most importantly, the instrument itself is suited like no other one to render improvisation both eminently plausible and endlessly variable. In particular, the ease of maneuvering afforded by the linear-topographical arrangement of keys on a keyboard, and by their constant visual presence, separates the instrument from virtually all others; the existence of multiple registers offers a broader palette of choices, and the combinatorial properties of rendering chords quite easily in any number of voicings, spacings, and doublings makes this wide and diverse landscape simple to navigate. The extraordinary aspect of the keyboard, it seems, is the array of easily accessible choices available to its player.

Viewing keyboard pieces as improvisations demands an explanation of *how* the pieces could have been improvised—that is, which skills and techniques could

have facilitated their generation, and what the reach of their application is—and, by corollary, how a diligent musician of that time (or of our own time) could acquire these skills. Trying to reconstruct a claim as to the improviser's specific train of thought is obviously fraught, but it is also less rewarding than a study that focuses more generally on plausibility: How *could* a piece (or countless others like it) have been generated using improvisational methods? The interesting question is not which methods *did* a musician consciously employ to improvise *a* piece, but rather which techniques *could* have been employed to improvise *any number* of pieces such as the one under consideration. Thus, the questions asked here are as applicable to modern-day improvisation in historical styles as they are to the contemporaneous pieces that they examine.

This chapter offers a hierarchical model specific to the learning and performance of keyboard improvisation, which borrows some aspects of the classical rhetorical apparatus, and then investigates some of the analytical and pedagogical applications of this model.

Improvisation and Rhetoric

As discussed in Chapter 1, improvisational memory is a very specific sort of memory; its function is not to preserve, but to generate, so it must be flexible enough to yield novel combinations and applications (rather than just reproductions) of the material that was memorized. William Porter speaks to exactly this issue in his description of improvisational memory for the Baroque keyboardist:

> It should perhaps be underscored here that the references to memory…before the eighteenth century could not be understood in the same way as we commonly speak of memory today. For us, the notion of memorizing music normally has the connotation of rote memorization, culminating in a performance that reproduces every memorized detail. From the perspective of the improviser in the 16th and 17th centuries, this modern practice may well represent a debasement of the earlier concept of memory. Traditionally, the role of memory in rhetoric as well as in musical performance was not to reproduce in exact detail a pre-existing work or even a portion of a pre-existing work, but rather to serve the process of imprinting and internalizing images or structures in the mind, which would be brought to bear upon the creative process at the moment of performance.[2]

The distinction is the same as the one from classical rhetoric, namely between the memory of words (*ad verbum*)—which allows one to reproduce (*recitare*) a speech as a document—and the memory of the essence (*ad res*)—which allows one to regenerate it from a précis or outline.[3] (The latter meaning speaks more directly to improvisation as we normally think of it, although the former evokes the notion of a "composer-improviser" who produces and then reproduces a precise text; one also thinks of the "learned" improvisations of early big-band soloists, who repeated the recorded versions of their solos note-for-note on tour.) For improvisation, we might go one step farther to add a third sort of memory, that of generating formulas and techniques, which is the type that would facilitate the production of material *like* what is memorized without necessarily relying on its specific wording or even on its particular series of arguments. Thus, to say that an improviser "plays from memory" does not have the same meaning as it does for a concert pianist who memorizes Liszt note-for-note or a politician who memorizes sixty-second debate answers word-for-word.

I am interested in exploring the similarities, and the important differences, between the memory of a keyboard improviser and the rhetorical memory (or *memoria*) of a classical orator. Indeed, as Porter suggests, the metaphor bears fruit,

at least in part. *Memoria* is evocative of many of the associations that we make to improvisation; its goal is to enable the fluent performance (or delivery) of a speech by means of carefully crafted mnemonic devices that assist the regeneration (and not just the literal recall) of the orator's argument. Although discussed in Greek writings (especially by Aristotle), classical *memoria* was perhaps most influentially presented by the *Rhetorica Ad Herennium* (formerly attributed to Cicero), from the first century B. C., which sets forth the five elements that any modern student of rhetoric is familiar with—that is, Invention, Arrangement, Style, Memory, and Delivery.[4] Of special note in this text is the central role attributed to *memoria* in oratory, as the rhetorical element that makes all of the others possible in the first place by providing the template upon which the argument is to be "written"—into memory, that is. As discussed in Chapter 1, mnemotechnics are a crafted system born of training, and consist of generic background templates and specific images that are inserted into the loci of these backgrounds. Importantly, arrangement (or *dispositio*) is quite a direct metaphor for *placing* the images into a suitable ordering—that is, one arranges the objects *into memory*. To improvise a praeambulum, or a minuet, or a toccata, an improviser can rely upon a background set of general norms as to the constituent sections of such pieces, and often *the basic order in which they occur*. These generic layouts, like the architectural structures of classical mnemonics, are intimately familiar to the improviser and are typically accessed in more-or-less fixed temporal orders (with some flexibility, of course); thus, the temporal orientation of mnemonic backgrounds is suggestive of the method employed by improvisers to contextualize

the more local decision-making within a generic *dispositio* that is easy to recall. This will be explored in more depth below.

I do not mean to suggest that improvisational memory is best understood as equivalent to rhetorical *memoria*, for they are different in fundamental ways. For example, Quintilian discusses the word-for-word mandate that is often placed on oratorical memory, arguing that memory ought to be placed *after* invention, arrangement, and expression, "for we must not only retain in mind what we have imagined, in order to arrange it, and what we have arranged in order to express it, but we must also commit to memory what we have comprised in words; since it is in the memory that everything that enters into the composition of a speech is deposited."[5] For improvisers, memory must play a role from the very beginning, accepting patterns and idioms that are prerequisites to any generation of musical material in real time. In fact, the classical rhetoricians consistently extol the virtue of *ex tempore* speaking, noting the command that the speaker must have over patterns to construct not only a logical series of arguments, but also ways of rendering these in words. This is essentially improvised oratory, which bears an obvious and direct resemblance to the demands placed on an improviser of music. The central role played by a mnemonic template in this activity—namely, as the cornerstone upon which the performance (or delivery) of an argument rests—is highly suggestive of a connection to keyboard improvisation.

For classical rhetoricians, the elements of structure and design (i.e., *inventio*, *dispositio*, etc.) served the eventual purpose of implanting, *in the memory*, a well-

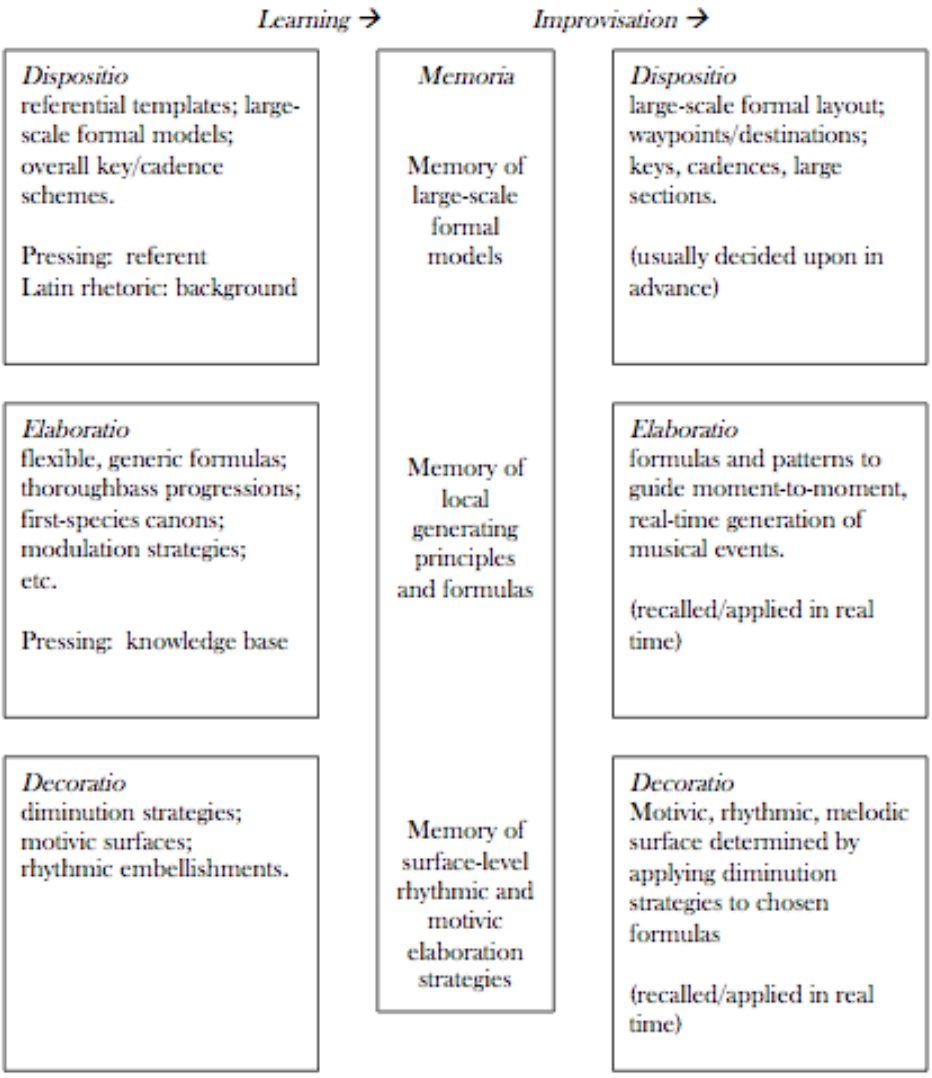
considered speech that would be delivered in performance. As the function of rhetoric became dissociated from its performative aspect during the *musica poetica* tradition of the Baroque, however, memory ceased to serve, as it had previously, as "the treasure-house of the ideas supplied by Invention" and "the guardian of all the parts of rhetoric."[6] After all, memory was far less important to analytical and compositional usages of rhetoric.[7] Daniel Harrison addresses this lacuna elegantly as a consequence of a curricular shift that was broader than just music; he calls the version of rhetoric that appeared in the seventeenth and eighteenth centuries "secondary rhetoric," representing the shattering of the five-part classical rhetorical scheme into invention and disposition on the one hand (i.e., as dialectics), and style and delivery on the other (i.e., as "rhetoric"), discarding memorization altogether.[8]

However, the dialectical strand discussed by Harrison does provide a hierarchical apparatus for understanding compositional design and layout—and, by extension, compositional process—that can be fruitfully adapted to improvisation. One thinks, for example, of Johann Mattheson's five-part process of *Inventio*, *Dispositio*, *Elaboratio*, *Decoratio*, and *Executio*,[9] and of Heinrich Christoph Koch's *Anlage, Ausführung,* and *Ausarbeitung*, which closely parallel the middle three of Mattheson's processes. Both of these describe a hierarchical relationship between determining a large-scale plan for a piece (*Dispositio* / *Anlage*), rendering and elaborating this plan by means of specific musical events (*Elaboratio* / *Ausführung*), and realizing and embellishing these events by means of surface-level diminutions (*Decoratio* / *Ausarbeitung*). This hierarchical trio is illustrative of the improvisational

process as well, for it offers a way to conceive of a layout of waypoints realized by means of skeletal voice-leading patterns that are themselves embellished by means of surface diminutions. This requires, however, a reorientation of the hierarchy from successive compositional stages to simultaneous improvisational ones, a point to which we will return momentarily.

Chapter 1 concluded that an adequate model of improvisational learning and performance needs to be hierarchically organized in order to generate new passages rather than simply recalling old ones; that it must reach wide enough to encompass long-range improvisational planning; and that it must also be detailed enough to account for the musical surface as something more than the fruits of subconscious muscle memory. These requirements are well-served by a portion of the rhetorical apparatus discussed above, though reoriented to pertain specifically to improvisation; it offers a powerful, hierarchical lens through which to view both the process and the results of improvisation. I propose the following simple model for the learning and performance of keyboard improvisation, consisting of three distinct and hierarchically related types of musical memory that I associate with the rhetorical terms *dispositio*, *elaboratio*, and *decoratio*:

Figure 2.1. Model of Improvisational Learning and Performance


Learning →
Improvisation →
Dispositio
referential templates; large-scale formal models; overall key/cadence schemes.
Pressing: referent
Latin rhetoric: background
Elaboratio
flexible, generic formulas; thoroughbass progressions; first-species canons; modulation strategies; etc.
Pressing: knowledge base
Decoratio
diminution strategies; motivic surfaces; rhythmic embellishments.
Memoria
Memory of large-scale formal models
Memory of local generating principles and formulas
Memory of surface-level rhythmic and motivic elaboration strategies
Dispositio
large-scale formal layout; waypoints/destinations; keys, cadences, large sections.
(usually decided upon in advance)
Elaboratio
formulas and patterns to guide moment-to-moment, real-time generation of musical events.
(recalled/applied in real time)
Decoratio
Motivic, rhythmic, melodic surface determined by applying diminution strategies to chosen formulas
(recalled/applied in real time)

The model consists of a learning phase and a performance phase, and improvisational memory serves as the linchpin that binds these together; that is, with respect to memory, learning represents input and improvisation represents output. *Dispositio, elaboratio,* and *decoratio* represent not three ordered phases of musical composition, but rather three hierarchically related types of learned patterns and

techniques. During practice, one acquires large-scale formal trajectories (*dispositio*), smaller-scale formulas and skeletal voice-leading structures (*elaboratio*), and surface-level diminution strategies (*decoratio*). During improvisation, one decides in advance upon an overall improvisatory path (which, of course, is subject to interpolations and other potential changes in real time), and then calls upon flexible patterns and formulas as well as techniques for rendering them as a musical surface. The omission of *inventio*, the creative spark, from this rhetorical picture is indicative of an understanding of improvisation as a learned skill of assembly and application, and not one of entirely spontaneous invention. That is, the musical patterns are invented ahead of time and practiced, and then simply combined, arranged, and varied during extemporaneous performance.

Clearly, the three improvisational planes are mutually informative and in constant dialogue; a detour in the deeper structure of the *dispositio* (or even a momentary lapse in one's memory of what ought to happen next) would require a correction in the *elaboratio* progressions used (such as an additional sequence to vamp while deciding upon what key to visit next), which itself might motivate a different sort of surface diminutions (such as a more intricate ornamentation of the second sequence than of the first). The top-down progression of improvisational waypoints, to skeletal progressions, to surface diminutions is intended as an ideal case, but is flexible enough to accommodate adjustments. In particular, the distinction between *elaboratio* and *decoratio* is more of a continuum than a sharp boundary; we might imagine a hierarchical progression from middleground to

surface, beginning with basic progressions, fleshing them out with particular voice-leading structures, applying rhythmic and melodic diminution, and eventually adding ornamentation such as trills and mordents.

In addition to the debt that this model owes to eighteenth-century conceptions of musical dialectic (e.g., Mattheson's *dispositio* / *elaboratio* / *decoratio*, Koch's *Anlage* / *Ausführung* / *Ausarbeitung*)—though as simultaneous and hierarchically related improvisational planes, rather than successively ordered phases of written composition—it also resonates in an interesting way with a recent discussion of improvisational form by Robert Gjerdingen. The formulation of his analogy to dramatic plot warrants substantial quotation here:

> The apprentice draftsman had to learn many component models—eyes, ears, nose—that were to be incorporated within the larger model of the face, which in turn was but a component of models for the standing or seated human figure, which itself occupied a location and role within a conventional pictorial scene. Artisans involved in crafting temporal rather than visual designs needed to master a similar hierarchy of patterns. An improvising actor of the commedia dell'arte, for example, needed to memorize the jokes, banter, dialogues, soliloquies, and physical comedy for the stock character appropriate to his or her age and gender. The actor then needed to learn how to connect those atoms of comedy into the molecules of scenes, which would ultimately be integrated within the skeletal plot narratives known as *scenarios*. These many patterns of speech, action, and reaction had to become so second nature that the actor could adapt smoothly to the unpredictable events of unscripted, often outdoor performance. For the training of beginning actors, the commedia dell'arte troupe kept a *zibaldone*, or commonplace book, full of items for memorization. These were not printed books but private manuscripts containing many of the trade secrets of the craft.[10]

This analogy is apt, for the utility of *scenarios* to these actors—that is, as standardized, but still variable prototypes—closely parallels the utility of large-scale formal models for keyboard improvisers. I also agree, generally, with the hierarchical organization of Gjerdingen's analogy, from the overarching plot narratives of the *scenarios*, through the individual scenes, down to the atomistic jokes and dialogues. However, as discussed briefly in Chapter 1, Gjerdingen's and my conceptions of

hierarchy and large-scale form differ. The analogy to dramatic plots is not exact, and much more explication is needed of the specifically *musical* meaning of this hierarchical picture—what the long-range plots are for particular types of improvised pieces, how the constituent waypoints of these plots determine the selection of suitable patterns, and what the tools are by which each of these patterns becomes a specific musical gesture. My understanding of improvisational discourse extends in both directions beyond the sequence of stock patterns employed by the improviser—both upward, to encompass detailed *dispositio* trajectories that place parameters on the options available, and downward, to delve into the nuts and bolts of diminution technique that render these options motivically.

An important aspect of this model is its temporal flexibility with regard to improvisational learning. Even if it may seem that learning would adopt a bottom-up approach—from the musical surface to abstracted patterns to large-scale trajectories—each of the three hierarchical levels of learning can be developed independently of the others. An improviser studies the long-range paths that certain pieces tend to follow while simultaneously learning voice-leading patterns and imitative formulas, and do all of this while simultaneously developing methods for adding rhythmic and motivic diminution to first-species voice-leading skeletons. Indeed, the pedagogical approach of any particular treatise often lies squarely within one of these levels (such as *partimenti* on the middle level, diminution treatises on the bottom level, and so on), but a multifaceted learning approach can feed the entire

memorial hierarchy, as will be discussed below with respect to Spiridione a Monte Carmelo.

Also crucial to this improvisational model is its hierarchical organization, which is a prerequisite to the generation of new musical material as opposed to the mere literal reproduction of memorized passages. In a single-tiered learning apparatus, musical models (e.g., excerpts from existing pieces) could only be regarded in one dimension—that is, as indivisible entities. There would be no means by which to regard their organization, their content, and their specific rhythmic and motivic 'wording' independently, so to recall them would be to reproduce them inflexibly, in exactly the form in which they were memorized. By contrast, a hierarchical conception allows existing musical material to be digested on several levels simultaneously; an improviser can consider its large-scale organization, its more local generating principles, and its surface-level realization independently, and commit the music hierarchically to memory. As a result, he or she can reproduce some aspects of the memorized music while varying others—applying its motivic content to a different set of skeletal voice-leading progressions (i.e., preserving *elaboratio* while varying *decoratio*), or rendering its same underlying voice leading by means of different diminution formulas (i.e., vice versa).

Considered in light of the specific physicality of keyboard improvisation, the hierarchical phases of *elaboratio* and *decoratio* absorb fruitful meanings. *Elaboratio*, a voice-leading framework, prescribes *where* on the keyboard the hands are to be placed (i.e., registral arrangement of voices) and *to where* they are to travel (i.e.,

voice leading); and *decoratio*, or surface diminution, determines precisely *how* (i.e., by means of what surface rhythms and melodic shapes) they are to traverse that distance. Thus, the notion of *elaboratio* richly encodes an insight into a particular disposition—and progression—of upper voices. This physical conception of the improvisational hierarchy resonates well with David Sudnow's kinesthetic account of improvisational learning as the discovery of places to go and ways of moving the hand;[11] indeed, it speaks to instrument-specific improvisation in any style.

Equipped with a hierarchical, improvisational memory, a musician can generate—indeed, construct from scratch—a virtually infinite number of musical utterances. He or she chooses from a highly customizable set of memorized improvisational options and navigates a novel musical path never before taken in its exact form, with a large-scale *dispositio* gleaned from one place, but fleshed out with the help of *elaboratio* formulas drawn from a number of other places, and realized by means of surface-level *decoratio* techniques learned yet somewhere else. The myriad possible combinations of such a hierarchical system are exactly what lend improvisational plausibility to the vast assortment of keyboard pieces, many yet to be generated, that we may regard as extemporized.

To demonstrate the centrality of hierarchy to a flexible and limitless generative potential, we will consider the task of improvising the first reprise of a minuet. An improviser who learns by exact imitation, and treats improvisation as a process of concatenation, could certainly reproduce an exemplar that he or she has encountered and memorized:

Figure 2.2. Model of First Reprise Modulating to III

If improvisation were only reproductive, then the quality of the improvisational result would hinge directly upon the quality of the memorized models, and the amount of potentially improvised music would be equal to the amount of memorized music; the process would be serial, so little variation would be possible between what is learned and what is played. One thinks of a non-native speaker trying to teach a challenging concept; when the students ask him to explain it in a different way, he cannot, for he has learned just a single formulation of the idea.

However, if the same first reprise is considered hierarchically by an improviser, a great deal of flexibility enters into the process. The *dispositio* for such a small amount of music is simple:

Figure 2.3. *Dispositio* of First Reprise in Figure 2.2
Phrase 1: Establishment of Key – Half Cadence
Phrase 2: Modulation Strategy to Mediant – Authentic Cadence

Each of the four components of this *dispositio* represents an improvisational task to be completed, and each of these tasks can be accomplished by means of a wide variety of skeletal voice-leading progressions. Three samples of these, including the one given in Figure 2.2, are presented below in *elaboratio* form (i.e., without diminutions); of course, these can be recombined in various ways to form even more possibilities, and there are many more ways of realizing the four improvisational

goals that are not shown here. Due to the two-voice texture that predominates in minuets, these *elaboratio* structures are shown as just soprano-bass duets; the clarity of the outer-voice counterpoint makes obvious what figures would be added (and therefore what the inner voices would be) in the case that a thicker texture were desired.

Figure 2.4. Three *Elaboratio* Frameworks that Realize the *Dispositio* in Figure 2.3

The relationship of *dispositio* to *elaboratio* is hierarchical because the improvisational task to be completed *governs* the choice of a skeletal progression, and because a large number of such progressions can be chosen to complete the task. This interaction allows us to see the progression employed in Figure 2.2 as but one of many options.

Another hierarchical interaction takes place as these are rendered as musical surfaces, for the application of diminutions is governed by the structural voice leading, and each *elaboratio* structure can be rendered in multiple ways by applying different *decoratio*. To demonstrate this, the second *elaboratio* above is realized in three ways below, corresponding to three different *decoratio* strategies:

Figure 2.5. Two *Decoratio* Options for Rendering the Second *Elaboratio* Framework of Figure 2.4 on the Surface

Thus, a tree of improvisational options originates in a single *dispositio* of waypoints to be reached, which branches into multiple *elaboratio* patterns that reach them; each of these branches further into the countless musical surfaces that can be created by subjecting each of these *elaboratio* structures to various sorts of melodic and rhythmic *decoratio*. Improvisational expertise is defined by the maturity of each of

these hierarchically-conceived improvisational trees, so to speak—by the number of distinct musical utterances branching out of each generic plan.

In his essay on Bill Evans's *Conversations with Myself*, Steve Larson turns the traditionally erroneous distinction between composition and improvisation on its head and, as he defends the improvisational plausibility of Evans's playing, describes improvisational learning in much the same way as in the model proposed above:

> Evans was able to improvise in these rhythmically and melodically compelling ways only because he spent years studying and practicing patterns: the rhythmic and harmonic patterns upon which jazz standards are based, the rhythmic and melodic patterns of the specific pieces he played, the patterns of voice leading that he embellished, and the patterns of ornamentation that he applied to these other patterns….Thus, I feel confident in describing Evans's apparently 'instantaneous' improvisations as the result of years of preparation.[12]

Stylistic differences between mid-twentieth century jazz and Baroque keyboard music aside, Larson's typology of patterns for Bill Evans's learning operates on the same three levels as I suggest above—as strategies for long-range planning, as voice leading patterns to get from one place to another, and as techniques of rhythmic and melodic diminution that render these on the surface. Of course, jazz musicians have a certain amount of long-range planning done for them as long as they are improvising choruses over some standard, as the length and chord changes are more-or-less fixed with each repetition (akin to playing variations on a long and variable figured-bass progression). Nonetheless, the commonalities far outweigh the stylistic differences, and I think of improvisation in much the same way as he describes, namely as "the real-time yet preheard—and even practiced—choice among possible paths that elaborate a preexisting structure, using familiar patterns and their familiar combinations and embellishments."[13]

The next section will begin to explore the relevance of this improvisational model by applying it to improvised keyboard music of the German Baroque. Primary sources on improvisation will shed light upon the patterns and formulas that an expert improviser could have learned and applied to the improvisation of pieces such as these.

Georg Saxer, *Praeludium in F*

A Praeludium in F by Georg Wilhelm Dietrich Saxer (d. 1740) serves well as a preliminary demonstration of how improvisatory methods taught during his lifetime by Spiridion a Monte Carmelo and others could be brought to bear. By examining the Praeludium in terms of the generating principles needed to account for each of its sections, one can reveal a plausible improvisatory train of thought, speculating on the real-time strategies that an improviser might call upon in order to generate a piece such as this one.

In broad strokes, the improvisation consists of the following sections, as shown in the *dispositio* below: An opening (mm. 1-12) that establishes the tonality of F as well as the motive and imitative strategy to be employed throughout; a series of short sections that modulate to and then cadence in C (mm. 13-20), a (mm. 20-23), d (mm. 23-28), g (mm. 28-31), and Bb (mm. 31-38); and then a conclusion that returns to and cadences in F (mm. 39-47).

Figure 2.6 ***Dispositio*** **of Georg Saxer,** ***Praeludium in F***

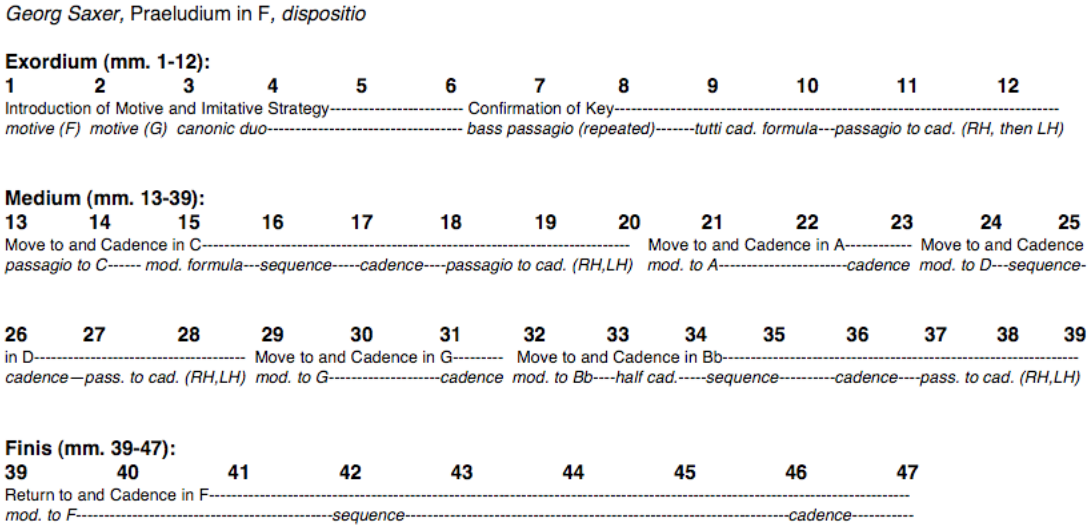
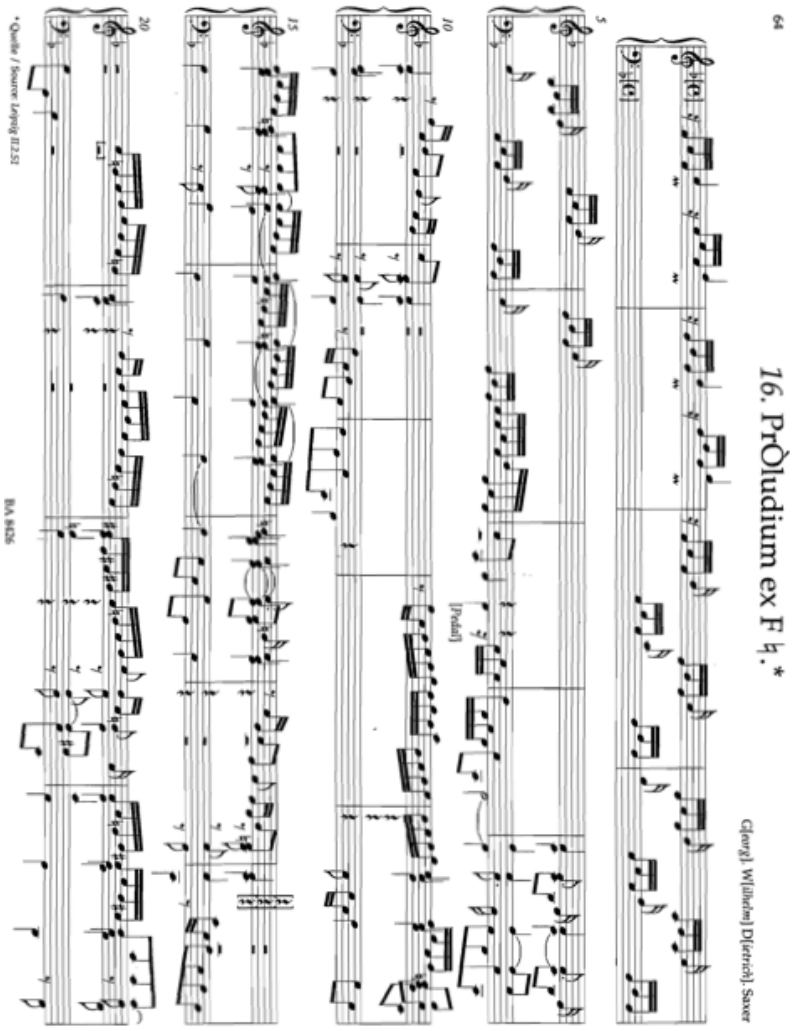
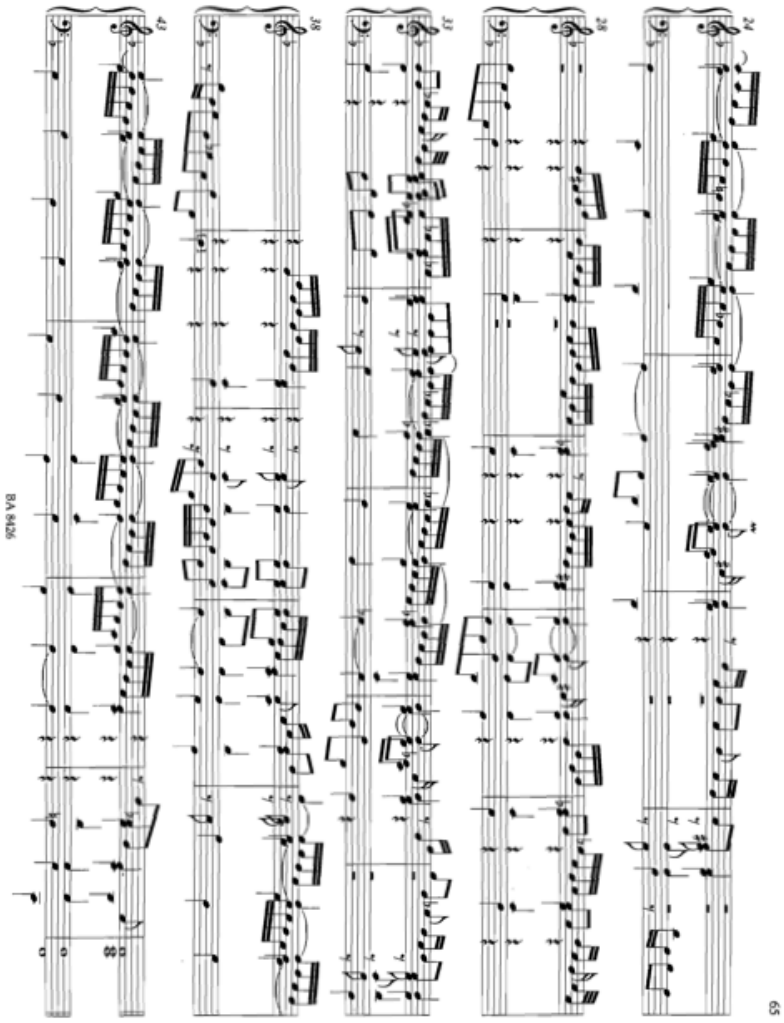

Georg Saxer, Praeludium in F, dispositio
Exordium (mm. 1-12):
1 2 3 4 5 6 7 8 9 10 11 12
Introduction of Motive and Imitative Strategy---------- Confirmation of Key----------
motive (F) motive (G) canonic duo---------- bass passagio (repeated)-------tutti cad. formula---passagio to cad. (RH, then LH)
Medium (mm. 13-39):
13 14 15 16 17 18 19 20 21 22 23 24 25
Move to and Cadence in C---------- Move to and Cadence in A---------- Move to and Cadence
passagio to C------ mod. formula---sequence-----cadence----passagio to cad. (RH,LH) mod. to A----------cadence mod. to D---sequence-
26 27 28 29 30 31 32 33 34 35 36 37 38 39
in D---------- Move to and Cadence in G--------- Move to and Cadence in Bb----------
cadence—pass. to cad. (RH,LH) mod. to G----------cadence mod. to Bb----half cad.-----sequence----------cadence----pass. to cad. (RH,LH)
Finis (mm. 39-47):
39 40 41 42 43 44 45 46 47
Return to and Cadence in F----------
mod. to F----------sequence----------cadence----------

Figure 2.7. Score of Georg Saxer, *Praeludium in F*

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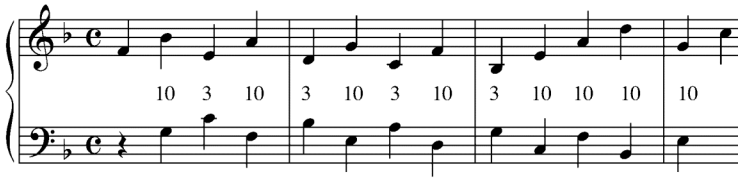
After determining a *dispositio* like the one in Figure 2.6 (which might include the specific keys to be visited, or might just specify a basic outline of beginning, middle, and end of the piece), an improviser would need the following *elaboratio* formulas in order to generate a piece like this one: First, a number of cadence patterns—some figured-bass progressions in four voices as well as some single-line *passagi* that serve the same punctuating purpose; second, a set of figured-bass progressions for modulating quickly from one key to another; and third, an imitiative strategy that accommodates a chain of descending fifths in the bass. Cadences and modulations are standard fare, so I would like to focus primarily on the imitative strategy, which is first encountered in mm. 3-6 as a canonic duo, shown in Figure 2.8 as a voice-leading skeleton (*elaboratio*). Here, a melodic shape of +4/-5 in canon yields constant thirds and tenths as a first-species framework; this is a ubiquitous pattern that every improviser would have practiced in all keys, and it is easy to recall as a melodic pattern, supported by tenths in contrary motion in the bass. (Considered as a canon, this melodic pattern is imitated at the lower seventh, but this is more complicated than what would be needed to memorize and reproduce the pattern.)

Figure 2.8. Saxer, *Praeludium in F*, mm. 3-6 (as a first-species canon)



The surface-level motivic material of this canon (*decoratio*) is derived from the opening two measures, where the *exordium* presents a four-note motive twice to

outline the modal octave F3-C4-F4 (m.1), and then sequences it up by step (m. 2). The rising fourth of this gesture is nicely accommodated by the rising fourths of the canonic skeleton shown above, which alternate between soprano and bass on each beat; each of the rising fourths is subdivided by the initial rising third of the opening motive, which forms a consonance with the sustaining voice (i.e., octave with bass moving, fifth with soprano moving). Thus, the *elaboratio* formula of the canon is realized by means of a *decoratio* pattern that links it with the opening measures.

The canon breaks after the downbeat of m. 6, where the bass voice copies the soprano (i.e., G-Bb-G-C) and initiates a cadential punctuation constructed of the same opening motive. This cadence is then repeated beginning on the third beat of m. 7, now in the pedal rather than in the left hand. Such single-voice cadence patterns derive from the initial melodic gesture in m. 1, and consist only of alternations between tonic and dominant plus the characteristic octave leap on ^5-5-1. Finally, a tutti cadence begins in m. 9; this is a standard, generic figured-bass progression for cadences.

Figure 2.9. Standard Cadential Thoroughbass Pattern

Measures 10-12 consist of additional single-voice *passagi* and cadences. The *passagio* is built almost entirely of melodic fourths, recalling the rising fourth that had dominated the imitative section of the *exordium*. It is echoed in the pedals in

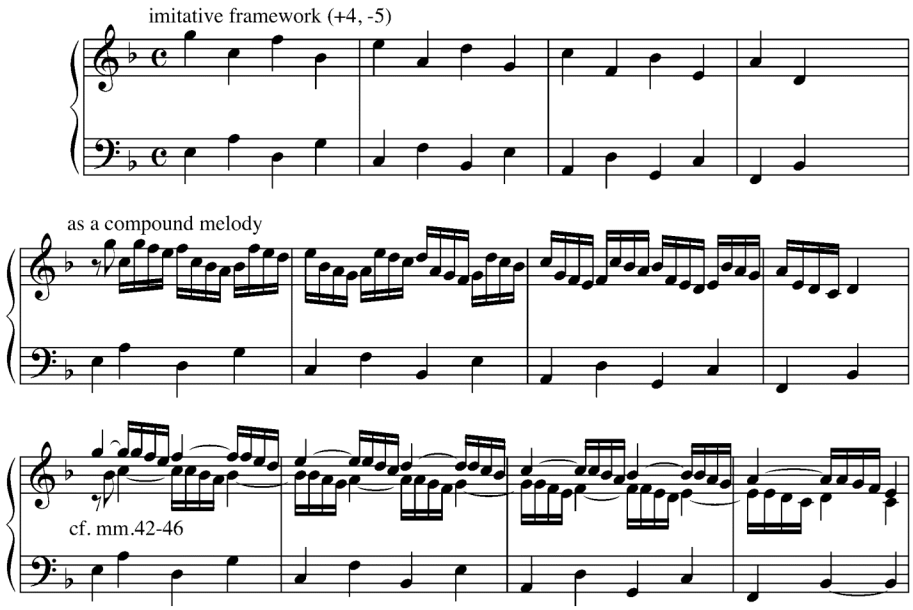
mm. 11-12, modified slightly at the end in order to incorporate the characteristic octave leap discussed earlier. Thus, the requirements for assembling this *exordium* were an opening melodic-rhythmic motive (mm. 1-2), that motive applied to a common imitative scheme (mm. 3-6), and a number of solo and tutti cadence patterns (mm. 6-12).

The path of keys taken in the middle section of this improvisation is a part of the *dispositio* of the piece, and quite possibly a pre-improvisational decision. After a modulation to the dominant and brief visit to the mediant, it descends by fifths through the submediant and the supertonic before reaching the subdominant. Each of the specific modulation strategies, however—that is, the figured-bass patterns on the level of *elaboratio*—adopts a thoroughbass strategy that would have been learned and easily recalled and applied during extemporaneous playing. For example, C major becomes A minor via a right-hand *passagio* in m. 21 that implies a chain of descending fifths from F, through B, to E as the dominant of A in m. 22. A stepwise bass descent in m. 23 turns tonic in A minor into dominant 4/2 in D minor, a key which is then confirmed by a long sequence and cadence. In mm. 28-31, descending fifths lead D minor to G minor, supporting the introduction of E-flat over bass note C before the same standard cadential progression confirms G minor (mm. 30-31) as did F major before (mm. 9-10). In fact, the return of the same single-line cadence (first heard at mm. 10-12 in both hands) later on in C major, D minor, and B-flat major serves to unify the piece—and also to render it quite efficient, improvisationally, since the same pattern is employed each time. In fact, as is typical for cadences in the

Baroque, this particular cadential pattern sounds like a thematic statement in contrast to the sequential, episodic material that surrounds it, and forges an important aural connection among all of the punctuations of the piece.

The same imitative framework that appeared in the canon of mm. 3-6 can also be found in the sequential passages of the middle section, which serve to allow time for a newly introduced key to settle in prior to being confirmed by a cadence. These sequences appear, for example, at mm. 15-16 (in C major), mm. 24-25 (in D minor), mm. 34-35 (in Bb major), and mm. 42-45 (in F major), as shown in the *dispositio* above. Although the full, four-voiced texture of these sequences seems to suggest an origin in figured-bass progressions, they actually stem from the same imitative skeleton as the original canon structure in mm. 3-6; they are just two different surface realizations of the same underlying counterpoint, or two different *decoratio* options for the same *elaboratio*. Figure 2.10 shows a plausible derivation from first-species canon, through figurated canon, to the sequences heard in this Praeludium.

Figure 2.10. Derivation of Sequential Passage from First-Species Canon



Thus, even a crystal-clear sequential passage such as this one betrays its vertical, circle-of-fifths appearance in favor of an entirely linear derivation as one of the standard imitative tricks of the keyboard improviser's trade. The canon in mm. 3-6 and the sequence in mm. 42-46 (and others like it) are just two different applications of the same basic generating principle. William Porter describes exactly this shared derivation of different musical textures, as part of his analysis of a *fantasia* by Scheidemann:

> Although these passages of sequential repetition are found in textures that are more homophonic and reminiscent of the toccata than those of the imitative first section of this piece, the structures forming them are nonetheless canonic, having an essential two-voice skeleton involving imitation at the lower fifth. This is in fact the point: both the close, paired imitation of the overlapping entrances and the sequential repetition of the later and more homophonic passages of toccata, praeludium, and fantasia are generated by the same patterns of alternating intervals that Santa Maria enjoins the player to internalize (memorize) and which constitute an important part of the vocabulary of images available to the improvising performer.[14]

The economy of means available to an improviser is striking: A single set of imitative patterns can be rendered in any number of ways, ranging from pure two-part

canon through full homophonic textures, but only the realizations need be different—not the underlying memorized patterns themselves.

Spiridione a Monte Carmelo's *Nova Instructio*

The technique of yielding such varied surface realizations of the same underlying bass progression is the very focus of a treatise written during Saxer's lifetime, by a German monk named Spiridione a Monte Carmelo (1615-1685). Spiridione, who was known to the world as Johann Nenning, came from Germanic roots, but traveled frequently and lived for a time (1643-1655) in Rome.[15] He returned to settle and spend the rest of his life as a Carmelite monk in Bamberg, where he published the first (1670) and second (1671) parts of *Nova Instructio pro Pulsandis Organis Spinettis Manuchordiis etc.*; the third and fourth parts were published in Würzburg in 1675-77. The work was known to other authors, and cited by Printz in his *Historische Beschreibung der edelen Sing- und Klingkunst*[16] as well as by Walther in the *Musikalisches Lexikon.*[17] According to Edoardo Bellotti, the material presented in the *Nova Instructio* displays the wide variety of impressions made upon Spiridione while he traveled around, by both northern composers (e.g., Sweelinck, Scheidt, Scheidemann) and southern ones (e.g., Kindermann, Froberger, Kerll).[18]

The treatise divides into four parts of approximately fifty pages each, all of which consist almost entirely of musical examples. It is unique on account of its extremely practical, almost anti-theoretical bent; the text in this handbook is

constrained to a bare minimum, leaving the demonstrations in musical notation to speak for themselves. It is, quite simply, a book of passages to imitate, practice, transpose, and add to one's improvisational vocabulary.[19] Spiridione presents the patterns already realized with surface diminution (i.e., *decoratio*); his expectation of the reader is to memorize these specific instances through imitation, build a vocabulary, and then extemporize by concatenating them. A vocabulary of idiomatic patterns is built through diligent practice, and the application of these figures is deduced through the study of sample compositions, from which stylistic conventions are gleaned. Under each pattern, Spiridion presents variations in graded difficulty, adding complexity—rhythmic, contrapuntal, and/or textural—as he proceeds. In addition to transposing the patterns, students are also instructed to perform several variations in direct succession (as a *de facto* ground-bass variation set), which fosters an awareness of their similarity and their shared derivation from a common bass pattern.

The materials that Spiridion offers to the improviser include both short, modular patterns and larger units of music that include them. *Finalia* are short cadence patterns. *Cadentiae* are metrically agnostic bass patterns (often figured) that accept a wide variety of melodic figurations, motives, rhythmic treatments, and imitation between voices—a variety that Spiridion demonstrates via an ample number of sample realizations of each *cadentia*. These patterns consist of sequential imitative bass patterns of the same sort discussed by Werckmeister in the *Harmonologia Musica*—that is, the patterns of ascending or descending seconds through fifths that

extend back to the Renaissance *Fundamenta*—but also of scalar and triadic patterns, chromatic basses, and modulation formulas. They are all shown in a no-sharps, no-flats collection, but the student is expected to learn them transposed as well. Spiridion also includes longer and more virtuosic patterns called *passaggi*, which he borrows from existing pieces, especially those of Frescobaldi; these are more melodically specific than the *cadentiae*. In addition to the improvisational modules, the treatise includes an anthology of short keyboard pieces, many of which are also borrowed from Frescobaldi. Bruce Lamott classifies Spiridione's teaching method as part of the *partimento* tradition of utilizing bass lines (either figured or unfigured) as foundations for entire solo keyboard textures.[20] However, Spiridion supplies many more sample realizations for each pattern than can be found in most *partimenti* collections, and he spends hardly any time specifying the ways in which these different patterns should follow one another—an element that is treated at least implicitly by the *partimento* basses themselves.

Which skills could a diligent student of Spiridione's hope to acquire? First, one learned cadence formulas in all keys, and therewith the ability to end an improvisation or to modulate to and reach a cadence in a new key.[21] These cadence formulas could then be extended by means of *cadentiae*, or bass patterns of sequential intervals, in order to create a brief intonation, praembulum, or verset. Variety comes in the form of stringing together different *cadentiae* within a single improvisation; that is, larger-scale pieces emerge not through organic, hierarchical expansion, but rather through concatenation. Bellotti sees Spiridion as in line with the approach to

keyboard composition that prevailed throughout the Renaissance and the Baroque, namely the aesthetic hegemony of unity—between playing technique and the rules of counterpoint, between the proper fingering and music theory, and between improvisation and its fruits in finished compositions.[22]

Unfortunately lacking from the treatise are longer, unrealized basses (i.e., *partimenti*) that might have served as complete practice pieces ripe for any number of possible applications of the *cadentiae* and *passagi*. The presentation of modular units and of complete, model compositions is ample, but an intermediate pedagogical step—in which the syntax and ordering of these patterns is given, but the specific metrical, motivic, and contrapuntal devices that give life to such a structure are up to the student—would have offered a more complete pedagogical path to improvisation. However, Spiridione does not teach on the hierarchical level of *dispositio*, the arrangement of complete pieces; his examples are instances of *decoratio*, and the large number of realizations given for each *cadentia* can be abstracted to reveal the underlying generating principles and formulas, or *elaboratio*.

Spiridione's brief preface, consisting of just eleven short guidelines, makes clear not only the method by which his readers should learn his material, but also that sensitivity, aesthetic taste, and musicality are as much a part of the proper application of his *cadentiae* as memory and practice are. He first provides the reader with a suggested learning process:

> 1. Those *cadentiae* in this work which you consider to be the most interesting, should be transposed in all keys, beginning with the shortest and the easiest. From the practice of transposing, which is the fundamental part of this work, follows the ease of elaborating every kind of intermediate and final cadence, as well as transposing a Thoroughbass in any key.[23]

He recommends that these *cadentiae* be sewn together in performance such that one dovetails into the next, with their concatenation hinging on a smooth rhythmic connection. This often requires the insertion of a transitional *passaggio*, which constitutes an essential aspect of Spiridione's insistence upon musical taste: "4. When a *cadentia* has been transposed two or three times, a different *cadentia* or a brief *passagio* should follow (of which a sufficient number can be found in the second part of this work), after which the first *cadentia* is to be repeated in another key." The choice of tempo should be based upon clarity, with two-hand passagework, trills, and fast rhythms played more slowly; "6. The *cadentiae* which do not have trills or scale passages should be played at a vivace tempo (allegro) but with a variety of portamento, sometimes fast, sometimes slow, in Tripla or in Sesquialtera, at times with different articulations, since the perfection of the modern style is defined by these characteristics."

Edoardo Bellotti, the consummate Italian-born keyboard improviser, makes an important point about the centrality of learning by imitation to improvisational study in the Baroque:

> The organist improviser is like a child dealing with a language: before grammar and rules comes[sic] listening, memorization and imitation of the adults to open the way to learning and communication. Again the organist improviser, like a good 'chef,' must learn to know and handle the various ingredients to mix them in the best way, creating new and ever-more sophisticated recipes.[24]

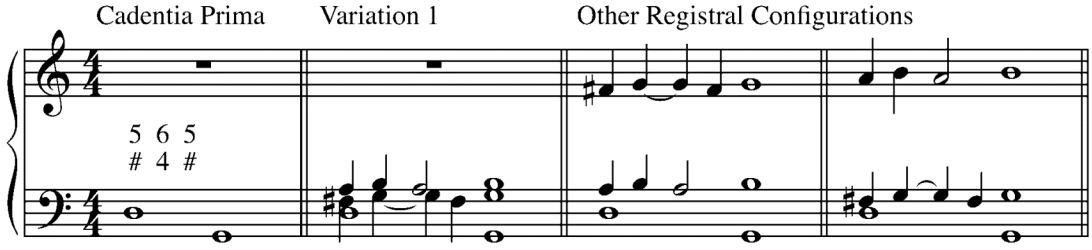
According to Bellotti, improvisational learning begins at the bottom left of the model in Figure 2.1—at the musical surface—where there is no abstraction. For him, *Inventio* is subsumed by *Imitatio*; one learns the musical material by imitating patterns and securing a firm grasp of musical idioms, and this—rather than a

spontaneously inventive spark—accounts for one's improvisatory prowess. *Imitatio* leads to *Memoria,* a term shared by Bellotti's and my conceptions of improvisational learning, and then *Actio*. In fact, the progression from *Imitatio* to *Memoria* to *Actio* parallels *exactly* the one in Figure 2.1 from learning to memory to performance; in both, *Memoria* is the critical linchpin that makes learning relevant to improvisation.

The important difference between Bellotti's conception and mine, though, is that his is restricted to the bottom of Figure 2.1—the musical surface—whereas mine admits skeletal voice-leading progressions and even large-scale improvisational layouts as equally important units of improvisational memory. The narrower scope of Bellotti's model is restrictive, for *Imitatio* alone enables musicians merely to concatenate a finite number of specifically realized passages in a combinatorial (and non-hierarchical) process, and—although neither Spiridione nor Bellotti acknowledges this—I see in Spiridione's treatise the potential for more advanced, more abstract, and therefore more widely applicable methods of learning. In essence, the myriad instances (or realizations) of each *cadentia* represent various possibilities for applying surface-level diminution to a common flexible framework. A keen student will not only transpose, memorize, and concatenate the realizations that Spiridion provides (*decoratio*), but also use them to abstract the pre-motivic skeletal framework that they each realize (*elaboratio*), as well as principles for devising their own surface realizations. Doing so would render the potential applications of Spiridion's teaching virtually limitless, expanding it from a tightly constrained process of combination to a deductive and endlessly creative one of variation.

Importantly, Spiridione's variations are not simply lists of solutions for realizing a figured bass on the musical surface; rather, they are motivic variations on entire three- or four-part voice-leading structures. If we consider his first *cadentia* (a decorated authentic-cadence formula), its very first surface realization presents an unadorned voice-leading structure of two upper voices plus bass. This type of skeleton appears as the first variation for each *cadentia* throughout the treatise, and represents the *elaboratio* level of Spiridione's teaching—the pre-motivic voice-leading formula that can flexibly accept motivic diminutions. These two upper voices are invertible, so one can also imagine the same voice leading in other registral configurations not explicitly provided by Spiridion, as shown below.

Figure 2.11. Registral Variations on Spiridione's *Cadentia Prima*



The invertibility of this upper-voice counterpoint is extremely important: It may not be aurally obvious that these three registral configurations derive from the same modicum of pitch material, so a large variety of seemingly different surfaces can be generated with very little effort on the part of the improviser (including some that simply apply the same diminutions to different inversions and dispositions of the same counterpoint). Indeed, each of the subsequent variations can be dissected in terms of the specific diminution techniques that it applies to one of these voice-

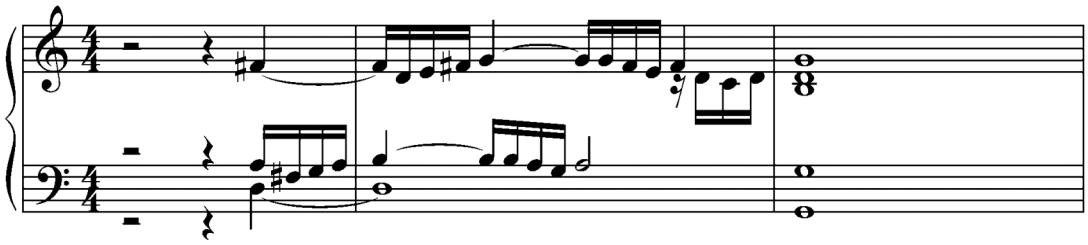
leading frameworks—and, in the process, a more generalized approach to diminution practice can be deduced from the various instances of motivic embellishment. For instance, variations 2-6 and 13-15 of the first *cadentia* (shown in Figure 2.12) are all elaborations of the same framework, the second one of Figure 2.11. Variations 7, 9, and 11 embellish the last of the frameworks above. As a result, all of the variations in each of these groups place the hands in the same position, and the methods of elaboration employed in them thereby become particular ways of moving around the keyboard. For instance, a rising step can be embellished by means of a falling third and then a stepwise rising fourth (variation 2), or a neighbor note in the opposite direction (var. 3), or simply a leap of a third (var. 6).

Figure 2.12. Spiridione's *Cadentia Prima* (excerpt)

Such a modular approach to diminution practice is certainly centuries older than Spiridione's treatise, but the context that he provides for it within figured-bass progressions is unique for what it offers to the student—namely, a way to learn patterns on the two hierarchically separate levels of skeletal voice-leading frameworks over a bass progression and surface realizations of these frameworks.

From the variations in *Nova Instructio*, one can also deduce a principle of musical taste as applied to diminution, regarding rhythmic balance between the two upper voices. While one voice plays sixteenth notes, the other remains very simple, often in unadorned quarter notes; the sole exception to this is when, as in variation 3, the two voices play in parallel thirds, sixths, or tenths. A diligent student of Spiridione's treatise can extend this principle of rhythmic complementation between upper voices by applying motivic constraints to the choice of embellishment types; if the soprano and alto voices alternate instances of the same motive, then an elegant imitative realization of the underlying voice-leading structure results. However, this imitation arises not out of an inherently canonic or polyphonic texture, but rather as a surface-level by-product of particular diminutions as applied to a bass-driven voice-leading framework. For example, variation 33 (shown in Figure 2.13) takes advantage of two upper voices that move in the same way, but offset by a beat; the soprano's F-sharp ascends to G one beat after the tenor's A ascends to B, and the G returns to F-sharp one beat after the B returns to A. Stepwise motion supports the application of two figures that were ubiquitous in the German diminution treatises of the Baroque: the stepwise fourth beginning after a beat (i.e., *figura suspirans*, *Schleifer*, etc.), and the turn figure beginning after a beat (i.e., *Doppelschlag*, etc.). By applying a rising stepwise fourth to the staggered ascending steps in soprano and tenor, and a downward turn figure to the staggered descending steps, Spiridione effects an imitative realization of the very simple voice leading.

Figure 2.13. Spiridione, *Cadentia Prima*, Var. 33



Thus, it seems, the project undertaken in the *Nova Instructio* is broader than it might initially appear: Students imitate and memorize specific musical surfaces and concatenate them, but they also absorb more general techniques for applying diminution (including imitative diminution) to voice-leading structures. This is what could allow them to *generate* new material, rather than simply regurgitate the exact patterns that Spiridione presents. Granted, there are enough patterns in the treatise to generate an enormous range of music without using anything not presented in it, but the process of extrapolating to a hierarchical (rather than a serial) working memory of these techniques is what would endow an improviser with fluency and flexibility.

Figure 2.14 reproduces part of the ninth *cadentia* from Spiridione's second book, which deals with a series of descending fifths in the bass—exactly the pattern at hand in the Saxer *Praeludium* discussed earlier.

Figure 2.14. Spiridione, *Cadentia Nona* (excerpt)

Of special note here is the remarkable variety of textures—both imitative and non-imitative—shown by the various numbered embellishments that Spiridion presents.

For example, number 15 resembles a continuo accompaniment with elaborated bass voice, while 17 is a three-voice canon. The conceit here is that the path from a bass line to its myriad realizations is entirely about voice leading. By supplying a relatively small number of different voice-leading structures (often related to each other by invertible counterpoint, as discussed above), and then finding all sorts of diminution possibilities in these—some canonic, some loosely imitative, and some non-imitative—Spiridione is able to demonstrate a virtuosic skill of extracting enormous surface variety from very limited means. It is exactly this variety, enabled by the independent operation of voice-leading structures (*elaboratio*) and surface diminutions (*decoratio*), that would have equipped an improviser with the flexibility to realize an underlying framework with such seemingly limitless surface variations.

Conclusion

Spiridion's pedagogy of imitation, transposition, and memorization is, at its most basic, a process of learning by rote repetition. Students play the patterns so many times and in so many keys that they become physical habits—indeed residing as much subconsciously in the hand and fingers as consciously in the mind. However, his treatise is of greatest utility to one who looks behind the surface-level exemplars provided in it and internalizes musical patterning on the level of *elaboratio* as well. By distinguishing the generic voice-leading progressions from the diminution techniques employed to render them as musical surfaces, an improviser can learn both sets of patterns and techniques simultaneously, thereby laying the

groundwork for not only a basic repository of memorized passages, but also a flexible and limitless interaction between the generative levels that beget them.

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[1] Porter 2000, 136.
[2] Porter 2000, 139.
[3] See Berger 2005, 53, where she discusses the fourteenth-century English Dominican, Thomas of Waleys.
[4] [pseudo-Cicero] (Caplan) 1954.
[5] Quintilianus 1873, 179.
[6] [pseudo-Cicero] 1954, III.xvi.
[7] See Bartel 1997 for an elegant and extremely thorough account of the *musica poetica* tradition. See also Buelow's account of rhetoric and music in the Baroque, which does not mention memory.
[8] Harrison 1990, 2ff.
[9] Of this five-part conception of musical rhetoric, Laurence Dreyfus says, "Mattheson has also eliminated *memoria*, which is naturally irrelevant to a composer who commits his ideas to paper" (Dreyfus 1996, 6). This statement represents a blinkered view of improvisation that neglects to acknowledge the plausibility—or relevance—of more than very simple music and musical processes, perhaps relegating all improvisation to the mere addition of ornaments; it discounts the indispensable role that composition *a mente* (or "unwritten composition") played even for pieces that eventually took written form. Several studies (such as Owens 1997) trace unwritten composition through several historical periods as an activity that required essentially the same skills as improvisation, and was made possible by composer-improvisers' internalization of devices, idioms, and patterns. Moreover, a great many composers in the Baroque were also highly skilled keyboard players with tremendous skill in continuo accompaniment and improvisation.

As it turns out, Mattheson does actually acknowledge a role for memory to play in musical composition, although not as part of an improvisational apparatus. In Chapter 4 of Part II of *Der vollkommene Cappelmeister*, on Melodic Invention, he explains that composers assemble special formulae—modulations, little turns, clever events, transitions, and so on—through experience and attentive listening. They do so in their heads, not in a book, he says, just as a speaker would assemble a stash of words and expressions for oral communication. These formulae, "though they are only isolated items, nevertheless could produce usual and whole things through appropriate combination" (Mattheson (Harriss) 1981, 283-4).
[10] Gjerdingen 2007a, 91.
[11] Sudnow 2001.
[12] Larson 2005, 258.
[13] *Ibid*., 272.
[14] Porter 2003, 141.

[15] This bibliographic information is taken from Bellotti 2008, vii-xix. Lamott 1980 also provides substantial background on the treatise and the author. Both of these discuss the pedagogy employed by Spiridione as well, but neither deals with the utility of his *cadentiae* beyond the concatenation of literally memorized excerpts; the present discussion seeks to fill in this gap.
[16] Printz 1690, 148.
[17] Walther 1732, 575. Walther's description of Spiridione and his work is somewhat clinical; it mentions his status as a Carmelite monk, and acknowledges just the second part of the *Nova Instructio*—its publication and dedication, its contents, etc.
[18] Bellotti 2008, xiii.
[19] Spiridione also presents an important pedagogy of imitative improvisation, in the tradition of other seventeenth-century treatises, which will be explored in Chapter 4.
[20] Lamott 1980.
[21] Lamott points out the liturgical necessity of these skills for a keyboardist. For example, a cadence needed to be reached immediately when the celebrant reached the altar, and the various keys of chants in a liturgical service provided the impetus for knowing how to modulate fluently between them.
[22] Bellotti 2009.
[23] Spiridione, *Pars Prima*, xxv (translated in Bellotti 2008, x-xi).
[24] Bellotti 2008, xv.

Chapter 3: The Intersection of *Elaboratio* and *Decoratio*

Equipped with the opportunity to view improvisational technique on three independent but intricately linked planes, we can now come closer to an understanding of the relationship between treatises, the pedagogical aims that they represent, and the music that benefited from their teachings. The pedagogy of Spiridione a Monte Carmelo, for instance, shows only the end results of the interaction between *decoratio* and *elaboratio*—the musical surfaces that result from the application of diminution patterns to underlying voice leading. His reader would learn *decoratio* explicitly by practicing the sample realizations, and a keen student could also learn *elaboratio* implicitly by deducing the underlying voice-leading patterns from the myriad surface exemplars. This chapter deals more explicitly with the intersection of *elaboratio* and *decoratio* by focusing on seventeenth- and eighteenth-century German treatises that taught diminution as a technique independent of the underlying progressions, thereby taking advantage of the separation between these two improvisational processes to yield a much more flexible and generatively powerful tool than the concatenation method espoused by Spiridione.

Introduction

In any hierarchical system, a precise understanding of the scope of any one level requires a fairly well-defined picture of those levels adjacent to it. Of the three tiers at hand here, *elaboratio* represents the generative level of improvisational

learning and performance, sandwiched hierarchically between the more architectural *dispositio* and the more executive *decoratio*. In the case of *decoratio*, the closest to the surface of the three, an answer to the question of "How is a skeletal progression embellished and rendered as a musical surface?" relies upon a prerequisite answer to that of "What does the skeletal progression itself consist of?". There is widespread agreement on the matter of what is contained in an *elaboratio* framework. As has been discussed in recent work by Robert Gjerdingen, William Renwick, Bruno Gingras, Thomas Christensen, Joel Lester, and others, the skeletal progressions of *elaboratio*—whether they are derived from thoroughbass study, *partimenti*, or the Rule of the Octave—must be more than bass lines with figures. Thomas Christensen explains the essential constituency of upper voices as part of a process in which "one learnt thorough-bass by memorizing and applying harmonic progressions fixed above systematically-ordered bass progressions."[1] Joel Lester also emphasizes the inclusion of complete voice leading in *elaboratio* patterns as he discusses the pedagogical value of *partimenti*: "The pupil learned voice-leading patterns that could be applied to realizing figured basses as well as to improvising…. [W]riters of all types of methods stressed how important it was to develop automatic voice-leading habits from one figuring."[2]

In his treatment of the stock gestures of the galant style, Robert Gjerdingen stresses that the bass lines of *partimenti* were learned in connection with idiomatic voice leading for the upper parts, showing that the intended realization of these basses

was neither as a chordal figured-bass accompaniment nor as a free motivic elaboration of a chord progression:

> The partimento was the bass to a virtual ensemble that played in the mind of the student and became sound through realization at the keyboard…. From seeing only one feature of a particular scheme—any one of its constituent parts—the student learned to complete the entire pattern, and in doing so committed every aspect of the schema to memory. The result was fluency in the style and the ability to "speak" this courtly language.[3]

I disagree with Gjerdingen as to the precise nature of *elaboratio* frameworks, a topic that will be addressed shortly, but I agree with him and the consensus of authors above that *elaboratio* must remain motivically and rhythmically flexible enough to accommodate a variety of musical surfaces, but also specific enough to include constituent voice leading in the upper parts as well as bass. Given this essential constituency, the remainder of the chapter focuses on the process through which this framework is embellished (or rendered, or realized) as a musical surface during improvisation—that is, the technique of applying diminution, or *decoratio*, in real time.

The Precise Nature of *Elaboratio*

Elaboratio, the study of memorized stock progressions and voice-leading patterns, has benefited from a great deal of recent work that traces the sources from which an improviser would have learned these formulas; the ample sources for learning progressions such as these, most notably *partimenti*, have been painstakingly documented by a number of scholars.[4] In addition to the huge Italian tradition of *partimenti*, consisting of the works of such masters as Pasquini, Durante, and Fenaroli, similarly intended resources appear elsewhere as well, in sources such as

J. S. Bach's *Vorschriften und Grundsätze*, Handel's exercises for Queen Anne, Johann Mattheson's *Orgelprobe*, and the *Langloz* Manuscript. The tradition of unfigured bass also serves as a fertile source of *elaboratio* vocabulary, particularly the long legacy of the *Règle de l'Octave*, which has been explored especially by Joel Lester and Thomas Christensen. In particular, the *Règle* persisted not only as a tool for harmonizing bass lines, but indeed also as a source of grammatical harmonic progressions for improvisation:[5]

> When understood in this latter sense, the *règle* became an ideal vehicle for learning the art of improvisation, or as it was variously called, "preluding," "extempore playing" or, simply, "modulating." For what was improvisation but the ability to play idiomatic melodies and harmonies spontaneously within and through several modes—that is, to modulate? By learning the *règle de l'octave* in all keys, as well as its most common variations and diminutions, the student had a wide repertoire of possible harmonic and melodic inventions upon which to draw.

This includes, of course, treatises such as C. P. E. Bach's *Versuch*, which explicitly present the *Règle* (and its variants) as the basis for improvised preludes.

More broadly, though, *elaboratio* patterns were not learned exclusively from treatises, manuals, and didactic pieces meant to teach them; indeed, the entire repertoire of music encountered by a keyboard player enters into that performer's personal storehouse of improvisational fodder. (Indeed, much of the high-level keyboard music that survives was actually intended didactically, as a repository of stock figurations, progressions, imitative gambits, and so on.[6]) It is fairly easy to imagine how a keyboardist could play, transpose, and memorize these idioms, and then apply and vary them in the course of extemporaneous performance, provided that *elaboratio* be defined both sufficiently precisely and sufficiently flexibly. Somewhat in contrast to this, Gjerdingen's discussion of musical formulas centers on

a finite set of named, clearly defined, and instantly recognizable schemata, reflecting his view of galant musical discourse as an assemblage of characteristic mannerisms: "My position…is that a hallmark of the galant style was a particular repertory of stock musical phrases employed in conventional sequences."[7] Of course, he does not deny the possibility of schemata derived from these common ones, or even of newly-created ones; nonetheless, his view of improvisational discourse is as a set of shared idioms and expressions that were to be mastered, and then spoken (or played) by all musicians.

I agree completely with Gjerdingen's notion of improvisation (even outside the galant style) as an assemblage of learned patterns. My interest, however, is in two aspects of these musical frameworks that depart somewhat from his study: First, since I am less interested in the predominance of a *specific* set of recognizable (and often named) schemata in the musical style of a *specific* place and time, and more interested in a widely applicable approach to improvisational learning, I hesitate to codify a finite number of *elaboratio* patterns. I am also specifically interested in the technique of applying *decoratio* to these patterns to render them as musical surfaces, whereas Gjerdingen does not focus explicitly on the techniques that pave a path between schema and surface. As seen in treatises such as Spiridione's *Nova Instructio*, voice-leading patterns can indeed be quite general—even indistinct to the extent that one would not recognize them in pieces as nameable idioms—and can be gleaned by keyboardists from any piece or treatise that they study. Furthermore, as the next chapter will address in more detail, these *elaboratio* patterns also include

devices for constructing canon and fugue (e.g., first-species structures for canon at the upper fifth), which are far too general to be characterized as discursive gestures, but still susceptible to exactly the same sort of *decoratio* discussed here. David Temperley has made a similar argument in his review of Gjerdingen: "[B]ut it is difficult to know, simply from the exercises, what was a schema and what was not. Without denying the interest of the *partimenti* and *solfeggi*, to my mind, the strongest source of evidence for galant schemata is the music itself…"[8]

Agreeing with Temperley, I tend to sympathize more closely with the conception of *elaboratio* suggested by Michael Wiedeburg near the end of his *Der sich selbst informirende Clavierspieler*:

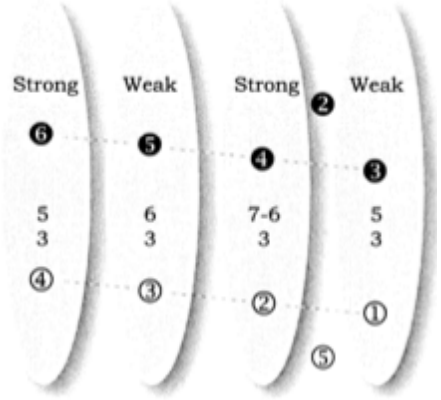
> Someone looking at a piece of music for the first time should do the same thing that he does with books that he sees for the first time….He notices whether the book expresses new opinions, new interpretations, etc….[9]

Wiedeburg's method of assimilating musical patterns (of which he mentions modulations, imitations, transpositions, and episodes, for example) is decidedly *ad hoc*, relying upon an informal analysis of whichever pieces a keyboardist learns. However, this independence is alluring, for it is evidence that improvisational *elaboratio*—at least for Wiedeburg and the German tradition—*was about the assimilation of a rather personal vocabulary of patterns, a vocabulary that would necessarily be different for each improviser depending on the repertoire that he encountered and digested*. Rather than tracing the pedagogical lineage of a certain set of patterns, and the manifestations of those patterns in the music of those who studied as part of that lineage, I prefer to leave open the question of what an improvisational

elaboratio can contain, for it is as limitless and as individualized as the repertoire of music that one encounters. That is, I view Gjerdingen's collection of schemata as a set of very common progressions—indeed, the *most* common ones of the Italian galant style—but not as an exhaustive or near-exhaustive classification of improvisational *elaboratio* for the Baroque keyboardist.[10] Of particular relevance to this point is Wiedeburg's last comment above, about the process of imagining—and, in fact, notating—a skeletal sketch of the pieces that one plays, thereby making it a regular part of the keyboardist's trade to extract new *elaboratio* patterns from pieces that he learns.

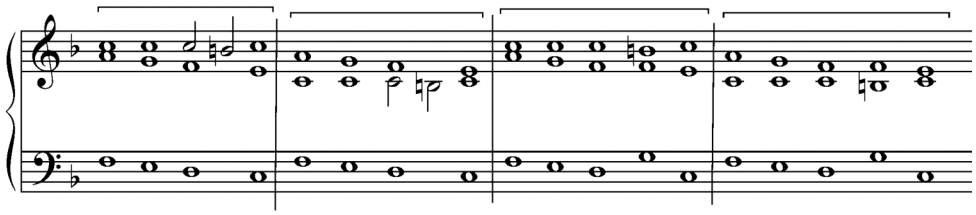
The number and specificity of these patterns aside, I also prefer to understand an *elaboratio* framework in a slightly different way from how Gjerdingen defines a schema. For him, a schema is an outer-voice prototype that unfolds as a series of stages or events (indicated by the large ovals below). An event is essentially a pair of scale-degrees for bass and soprano (shown in white and black circles, respectively), suggesting at least a two-voice contrapuntal framework for the schema; figure designations imply other voices, but they are not part of the essential definition of the schema. Gjerdingen's presentation places more emphasis on the *ordering* (i.e., sequence) of these events (and sometimes their characteristic metrical placement) than on the essential voice-leading connection between them or on the specific methods by which they are elaborated into a motivic musical surface. Gjerdingen's schema for "The Prinner," a set of four descending parallel tenths from subdominant to tonic, is shown below:[11]

Figure 3.1. Gjerdingen's *Prinner* Schema



I prefer to think about an *elaboratio* framework differently from how Gjerdingen thinks of a schema, in a few subtle ways: First, it is a complete, but registrally flexible voice-leading structure comprised of a bass line plus a variable number of upper voices. The Prinner has two essential upper voices, for example, although only one is specified by Gjerdingen's notation; the other is just implied by the figures. Some progressions imply a three-voice structure, some a four-voice one, and others just a pair of outer voices. Importantly, as discussed in the previous chapter with respect to Spiridione's *cadentiae*, there are often many possible dispositions and inversions of the upper voices, corresponding to different hand positions, each of which accepts a similar set of embellishments. For example, I think of the ^1-1-7-1 line, which is relegated to inner-voice status (and implied only by the figured-bass designation) in the Prinner schema above, as an equally plausible upper voice (and, when not in the soprano, still an equally important inner voice), as shown below in F major:

Figure 3.2. The *Prinner* as a Flexible Set of *Elaboratio* Variants in F



Indeed, there is an important improvisational benefit to allowing for the invertibility of the upper-voice counterpoint, namely the potential variety of surface manifestations that it offers (and the economy of means required to yield these).

The second important way in which my conception of an *elaboratio* framework differs from that of a schema pertains to the voice leading itself. I consider it essential to speak of a *progression* of voice leading, and not just a *sequence* of scale-degree events. That is, each note of a given voice attaches and leads to the next one as part of the linear-harmonic syntax of the progression; it does not just precede it. This contrasts markedly with the idea of a schema, which often admits variants that interpolate other harmonic events between the essential schematic stages. Part of my motivation here is that I prefer to think of an *elaboratio* structure as a specific locale and path for the hands (i.e., a *Griff* or series of *Griffe*)—a kinesthetic habit that accepts embellishments, but is quite particularly situated as a basic set of motions (with a different topographical layout of white and black notes in each key).

Melodic *Figuren* as *Decoratio*

One strand of diminution pedagogy resides in the presentation of several already-realized surfaces for each *elaboratio* structure, thereby showing just the results of diminution without teaching how to apply it. As the last chapter demonstrated, Spiridione's *Nova Instructio* is an extremely valuable instance of this approach; the huge number of surface realizations that it shows for each *cadentia* provide a large vocabulary of stock patterns for memorization and concatenation. However, an exemplar-based approach like this one does not actually teach the reader *how* to create surface diminutions from the underlying voice-leading structure—a bright student might deduce principles from the examples, but this would be beyond the intended scope of the treatise. The limitation with an approach such as this one is that the generative potential of the exemplars is severely limited; they are patterns to be concatenated as is, not guidelines or methods for generating an infinite number of new realizations. We are interested here in the tradition of diminution treatises that *did* offer explicit instruction in the technique of creating musical surfaces out of flexible voice-leading patterns.

The existing research on eighteenth-century *partimenti* portrays the act of applying diminution to stock schemata as *entirely* exemplar-based, in ways that very closely parallel the instructional method of Spiridione. Sanguinetti, who adopts a three-staged approach to realizing *partimenti*—consisting of a simple chordal realization, the addition of suspensions, and then the application of diminution to yield a distinctive shape and style—says, "For the third stage there are, unfortunately

for us today, no rules. Clearly, this subject was considered too complicated to be suitable for written rules, and it was entirely committed to an oral tradition."[12] This is not to say that diminution was never taught; both Sanguinetti and Gjerdingen discuss resources such as Durante's *partimenti diminuiti*, and the latter describes the pedagogical approach therein:

> The 'diminution exercises' (*partimenti diminuiti*) lauded by Borgir were studies in the embellishment not of the bass but of the implicit, imagined parts of a particular schema, meaning what was improvised by the performer's right hand at the keyboard. In the preserved manuscript collections of these exercises, verbal description is entirely absent save for the enumeration of options: *primo modo* (a first way), *secondo modo* (a second way), and so forth. Each set of *modi* or optional exemplars was followed by a complete partimento. The student needed to study the exemplars and then determine where in the partimento they would fit.[13]

In spite of the undeniable value of this method of learning, it relies on an accumulation of patterns in order to compensate for not teaching the skill of generating said patterns.

In the present study, I would like to investigate a uniquely German pedagogical strand outside of the *partimento* tradition that takes the opposite approach, presenting a *technique* of turning the generic voice leading into surface realizations. The schema-based acquisition of *elaboratio* patterns fostered by *partimenti* has been well-documented by recent research, and it is relatively easy to imagine how a keyboardist could learn these voice-leading frameworks. What is perhaps more interesting, and less obvious, is how a tradition of extremely local, isolated melodic shapes could: (1) ever yield a musical surface that coheres beyond a series of isolated moments, and (2) be applied during extemporaneous performance. The focus throughout has been on the flexible generation of music; equipped with the *Figuren*-based technique of embellishing skeletal patterns, we can complete a picture

of the hierarchical *elaboratio-decoratio* interaction that is virtually infinite in its generative potential.

In the remainder of this chapter, I trace the pedagogical tradition that teaches a keyboardist how to start with a voice-leading framework and apply diminution to it in order to form a convincing musical surface. After all, even within a musical culture of (however many) common formulas and progressions, it is the act of rendering these in different ways that allows them to serve as flexible generators of newly improvised music, and not merely as passages to be quoted (or concatenated). It is also the quality of the musical surface that bears the lion's share of the responsibility for playing idiomatically and convincingly. At the same time as the Italian *partimento* tradition—which, as mentioned above, relied upon an exemplar-based presentation of diminution—a simultaneous German tradition of melodic figures made the underlying *elaboratio* patterns more explicitly distinct from the methods of applying diminution to those patterns. The enormous utility of these *Figuren*—considered through the narrow lens of improvisational technique (and not as devices of persuasion or affect)—warrants a thorough investigation of selected diminution treatises by seventeenth- and eighteenth-century German theorists.

If considered in its most general form, namely as a way of creating florid elaborations of some underlying melodic motion, then the pedagogical lineage of *decoratio* stretches back to the oldest counterpoint treatises from the fourteenth century, and encompasses the vocal improvisation methods of the *seconda pratica* and the early seventeenth century as well. For the most part, though, these early

sources concern themselves with just two pitches (i.e., one interval) at a time—that is, with how to traverse a single, specified intervallic distance within some rhythmic constraints. With such a locally constrained conception of *elaboratio*, it is easy to imagine an improvisation that successfully navigates from one moment to the next in each case, but does not predetermine a longer-range route beyond this.

In many respects, *decoratio* is a less explored territory of the improvisational spectrum than *elaboratio*, and it may well be the more interesting of the two as well. This discussion will focus on just aspects of the seventeenth- and eighteenth-century German tradition of using melodic figures, or *Figuren*, as tools for teaching diminution practice. Of course, theorists in the *musica poetica* tradition also discussed *Figuren* as rhetorical and affective mannerisms with particularly intended effects, as part of an emerging theory of musical-rhetorical discourse. Some theorists treated figures as devices for improvisation, others as tools for written composition, and yet others as analytical explanations for licenses of the *seconda pratica*.[14] The present study does not attempt to trace the entire history of *Figurenlehre*; the history of *Figuren* as rhetorical devices, for example, is outside the purview of this study.[15] Many theorists of the *Figurenlehre* tradition, notably Michael Praetorius and the seventeenth-century *musica poetica* theorists such as Burmeister and Bernhard, are omitted from the discussion. We are interested here in the emergence of a particular technique of embellishment from a practical, improvisational standpoint, and the theorists discussed here serve simply as samples of that.

Peter Williams questions the affective significance of any of these *Figuren*, and the extent to which any of them plucks an affect out of the air when it is employed, wishing instead to separate the *Figurenlehre* from the *Affektenlehre*: "[T]he better theorists," he says, "were able to see that one could not be pedantic about the 'meanings' of these or any *figurae*,"[16] and to focus on "the more down-to-earth details of composing and playing."[17] It must be made clear here that the *figurae* meant by Williams, and the ones at hand in this entire chapter, are not the purely rhetorical ones (e.g., *ellipsis*, *interruptio*) that attempt to draw musico-linguistic connections by describing the *effect* (or the *Affekt*) of particular devices. Rather, they are the specifically musical melodic shapes—both named (e.g., *Circulo*, *Figura Suspirans*, *Tirata*) and unnamed—that can serve improvisationally as techniques of diminution. The latter are much more neatly, and I believe much more fruitfully, dissociated from their affective connotations than the former. I agree with Williams that these figures are best regarded in a purely musical sense, as a means toward creating idiomatic musical surfaces; however, whereas he focuses on their application as part of the written enterprise of composition, and on preferred modes of articulating them in performance, I prefer to regard them as the simplest, most easily learnable set of techniques for improvising diminutions upon a pre-learned voice-leading structure. Each of the writers dealt with here has a unique angle on the practical application of figures that warrants exploration from the perspective of improvisational technique.

The interaction of *elaboratio* and *decoratio* depends upon the constituent voice leading discussed above: By consisting of particular voice-leading strands, *elaboratio* both guides and constrains the way in which *decoratio* functions. First, the voice-leading specificity of *elaboratio* limits the task of *decoratio* to just the rhythmic and very locally melodic embellishment of existing skeletal voices. Secondly, and as a result, *elaboratio* progressions pave a motivated, melodically fluent middleground route that ensures the connection and function of local diminution figures beyond the simplistic purview of one chord at a time. The image is one of diminution figures being pulled along by the constituent lines of the structural voice leading, thereby adding rhythmic activity and motivic coherence to an already firmly directed and hierarchically prior melodic line. The implied upper-voice lines of *elaboratio* constitute a motivated middleground that governs and leads the diminution units and wrenches them into the context of a line much more satisfying than if the player had just strung together *decoratio* figures myopically.

Williams points to the possibility of generating smooth, longer lines out of a series of discontinuous segments—such as a scale out of a number of concatenated figures—but seems not to acknowledge a governing voice-leading structure as the guarantor of these longer shapes. One of his primary concerns is with the performance practice of *figurae*, specifically the extent to which their performance articulation should highlight their derivation from modular units. With respect to the following passage from J. S. Bach's *Nun freut* euch, BWV 734, he understands a series of beat-long figures beginning on each downbeat:[18]

Figure 3.3. J. S. Bach, *Nun freut euch* (from Williams)

Even in spite of the slur markings, viewing each of these figures purely as contained within a beat ignores the most essential aspect of their usage here, namely the seamless way in which they are woven together. One beat always connects to the next one smoothly, by step, which can be guaranteed by doing one of the following: Either search for an intra-beat figure (i.e., one that begins on and ends before the beginning of a beat) that happens to end on a note that moves stepwise to the next downbeat, or simply choose an inter-beat figure (i.e., one that begins after one beat and concludes on the next) that builds in a smooth approach to the next structural pitch. The former is a rather unpredictable game of patchwork, while the latter is a controlled and motivated technique that emerges from and serves an underlying voice leading. Consider parsing the phrase conceptually as facilitated by the beaming below:

Figure 3.4. *Nun freut euch* Rebeamed to Show Functional Derivation of *Figuren*

The sixteenth notes are still governed by the same cantus firmus of metrically accented pitches (i.e., G-B-A-C-B, etc.), but these structural notes now fall at the *end*, rather than the beginning, of each diminution figure. As intra-beat figures as in Figure 3.3, this phrase contains four different shapes, three of which occur in both

directions; the result is somewhat unwieldy from an improvisational standpoint. As inter-beat figures as in Figure 3.4, however, the entire phrase (save one beat in the second measure) is derivable from a single technique of approaching the upcoming downbeat stepwise from a fourth above or below. This is not to suggest a performance articulation that highlights these groupings over the ones proposed by Williams, whose argument for attending to *figurae* in performance is thoughtful and convincing. It is simply to say, from an admittedly structural and practical bias, that diminution modules *as tools and techniques* need not always be the same as figures *as motives and gestures*. As we will see, a increasingly hierarchical view of the relationship between diminution techniques and underlying voice leading emerged during the seventeenth and eighteenth centuries in German diminution treatises; an important result of this is that, by the time of Michael Wiedeburg in the 1770s, diminution figures were seen almost invariably as goal-directed paths rather than self-contained elaborative entities.

The distinction here is not merely a splitting of hairs, for one conception treats the passage as several instances of an autonomous figure that happen to connect scalewise, and the other sees the figures as subordinate connective modules between the pillars of an underlying voice-leading strand. In fact, the latter conception is not so radical; even in traditional third-species counterpoint, the choice of a four-note diminution figure is tightly constrained by where it is headed, and it makes a great deal of sense to think of diminution as an enterprise in getting to the next note, rather than in filling up the space of the current one. So, my view of melodic figures is

different from Williams's in two ways: First, I see them as merely a means of embellishment, rather than as autonomous motivic entities; and secondly, the coherence created by their concatenation depends upon their governance by a hierarchically superordinate voice-leading structure.

Critics of a view of improvisation as modular assembly might point to the apparent gap between local melodic figures and the sort of long-range linear coherence displayed by great keyboard works, questioning whether a methodology that seems to embellish individual moments so myopically is enough to demonstrate the improvisational plausibility of pieces that cohere in the longer range. How can *decoratio* be modular, and yet still melodically fluent? The sophistication needed to do this well emerged during the seventeenth and eighteenth centuries as the ontology of melodic figures changed; no longer about embellishing a note, the figure of the eighteenth century was about embellishing the path between a note and the one that it leads to. This essential difference, a product of an increasingly sophisticated view of underlying voice-leading stratagems, replaced the more myopic conception of a decorated moment, as part of a pedagogical lineage that we will explore presently in more depth.

Early Pedagogical Precedents for Keyboard *Decoratio* Practice

The tradition of teaching keyboard-specific diminution technique reaches back at least to Conrad Paumann's *Fundamentum organisandi* of 1452. Paumann's presentation is logically organized; he demonstrates florid, single-line possibilities for the right hand over long bass lines that simulate cantus firmus fragments, moving by

the intervals of a unison through an ascending and descending sixth. The ascending and descending stepwise patterns appear below:[19]

Figure 3.5. Excerpt from Paumann's *Fundamentum organisandi* (1452)

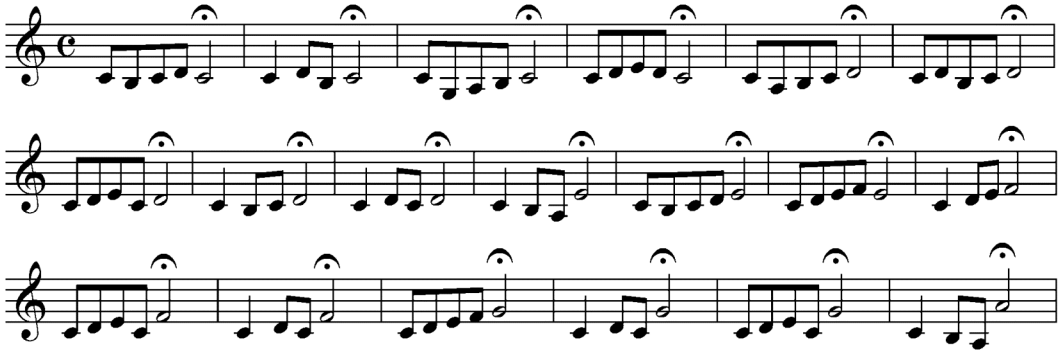
The right-hand part meanders; there is no apparent heed for either coherent repetition (e.g., motivic, rhythmic, etc.) or long-range melodic shape. Paumann seems to lack a governing linear-intervallic skeleton to which embellishments could be applied. For example, a bass rising by steps (i.e., C-D-E) would offer several first-species counterpoints for the soprano, such as a stepwise descent beginning on the

tenth (i.e., E-D-C) or twelfth (i.e., G-F-E) above, or a more static line beginning on the octave (i.e., C-B-C), or a parallel line in tenths (i.e., E-F-G). Several surface aberrations suggest that Paumann was far more concerned with what happened within each measure than about how one connected to the next. The parallel fifths between m. 2 and m. 3 stand out, but can be understood as a by-product of the stepwise figure beginning on the D on beat 3 of m. 2; the same happens into m. 6. The second beat of m. 5 is also a surprise, as it emphasizes F (a seventh) and C (a fourth) registrally; again, these illustrate the priority of the melodic figures themselves over the specific function of and connection between the notes that they include. Nonetheless, one can easily hear how the diminutions within each measure serve to elaborate the structural pitch on the downbeat, as a florid embellishment of a first-species duo. Of course, in the fifteenth century, any *elaboratio* skeleton would be based only upon intervals, not upon syntactic voice-leading progressions as such (except perhaps at cadences)—but, even without a tonal *syntax*, the usage of basic voice-leading *shapes* such as the ones above would have provided navigational aids, so to speak, through each type of bass line. Particularly in improvisation—the skill addressed by Paumann as well as by most of the other diminution treatises—melodic figures (i.e., florid diminutions) are not sufficient to create connections, much less coherence, beyond the boundaries of their own modular units; after all, the figures are inherently local, modular, and disconnected, and do not naturally connect to each other in elegant ways. Rather, these figures must be applied to a voice-leading structure that *is* inherently goal-

directed; they can derive larger-scale shape and elegance only through this connection.

Incidentally, a small part of this problem is solved by the time of Santa Maria's treatise of a century later. He dedicates the twenty-third chapter of his first book to "the Application of *Glosas* to Compositions." Like Paumann, Santa Maria organizes diminution practice by melodic interval (from unison through ascending and descending octave); but, whereas Paumann had considered the melodic interval of the cantus-firmus-like bass, Santa Maria omits the bass altogether and focuses entirely on the melodic interval of the line to be embellished.[20]

Figure 3.6. Passage from Santa Maria's Discussion of *Glosas* (1565)



This lends a sophistication to his method that had been absent in Paumann: Paumann's florid upper line bears no essential relationship to an underlying first-species framework in the same voice; it is simply a set of figures that work above some bass motion. In contrast, Santa Maria's presentation (which foreshadows that of Friedrich Niedt a century and a half later as well as several others) places each melodic diminution firmly within the context of the first-species interval that it decorates; thus, it is organized to show a list of patterns that travel from C to C, from

C to D, from C to E, and so on. Surely, the underlying voice motion is still short-sighted—that is, limited to a single two-note fragment of a melodic skeleton—but it subordinates diminution figures to the paths that they decorate, which the *Fundamentum* does not do. Moreover, Santa Maria shows two rhythmic categories of diminutions—those that embellish a whole note with eight eighths, and those that decorate a half note with four eighths. Thus, the idea to teach florid diminution practice through modular figures was certainly not novel to seventeenth- and eighteenth-century writings such as those by Printz, Vogt, Niedt, Quantz, and Wiedeburg.

The sophistication and improvisational power of any diminution treatise hinges on the extent to which it acknowledges and makes use of the intersection between *elaboratio* and *decoratio*, and teaches a way of getting the melodic whole to exceed the sum of its diminutional parts. In our survey of melodic *Figuren* in the works of German authors of the seventeenth and eighteenth centuries, we will see the emergence of a trend toward a two-stage learning process: By teaching students to conceive of an underlying, unadorned framework first, and then to apply figures within this rather tightly controlled context, authors are able to derive much more sensitivity from these melodic-rhythmic modules than is possible without the benefit of the *elaboratio-decoratio* hierarchy. Simultaneously, the codification of tonally syntactic progressions—and, therefore, of upper-voice voice-leading structures that relate functionally (and not just intervallically) to the underlying bass—lends further goal-directedness to the melodic figures that are employed as embellishments of these

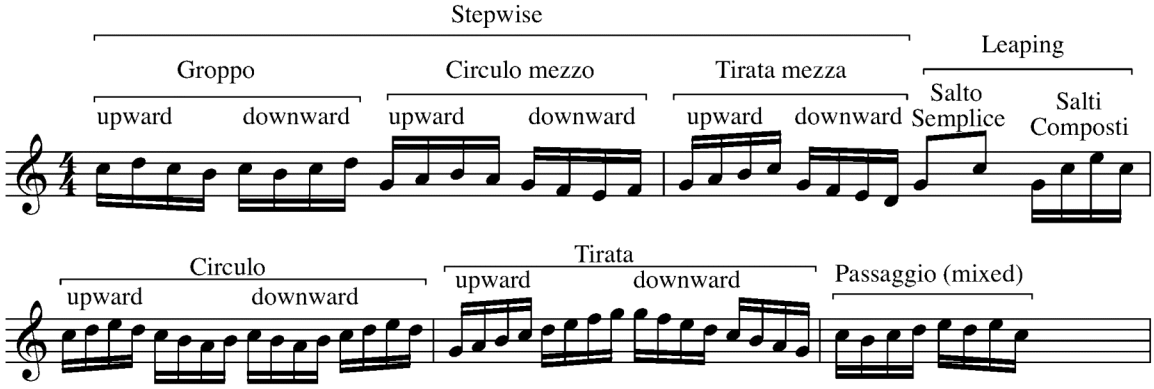
structures. Thus, by the time of the eighteenth-century diminution treatises, the pedagogy of improvised diminution had become different in kind, not just in degree, from both the medieval *Klangschrittlehre* treatises and the *seconda pratica* vocal improvisation treatises; these later authors had the advantage of, and were clever enough to extract hierarchical benefit from, progressions with more-or-less fixed upper-voice structures that act as guarantors of both linear motivation and tonal progression.

Printz's *Phrynidis Mytilenaei, oder Satyrischen Componisten* (1696)

Although Wolfgang Caspar Printz's treatment of melodic figures opens with a pedantically detailed taxonomy of figure types, it continues with a nuanced discussion of the role of these localities in embellishing an overarching melodic shape. Of the figure in general, Printz says, "A figure in music is a certain module [*Modulus*], which is formed out of a division of one or more notes, and which is applied in a particular manner appropriate to it."[21] Crucially, though, Printz seems to conceive of a figure as a self-contained unit that occupies a certain duration of music and embellishes a single pitch, not as a connected path that bridges one structural pitch to the next; this separates him from later theorists who discuss diminution. The figures, which all have Latin names, are classified by their length as either simple (*einfach*) or compound (*zusammengesetzt*), and further by their basic shape. Some of Printz's figures are shown on the staves below. Stepwise (*ordentlich-gehend*) simple figures can be concatenated into running (*laufend*) compound ones, as shown below. Some figures are melodically unspecific, such as the leaping (*springend*) ones, which

specify only a number of notes and not the size of the leaps; the *Salto Semplice* refers to two notes forming one leap, and the *Salti Composti* to four notes forming three leaps. The mixed (*vermengt*) figures specify only rhythmic guidelines: the *Figura Corta* consists of three notes with any one as long as the other two, the *Messanza* of four rhythmically equal notes, and the *Figura Suspirans* of three rhythmically equal notes that begin after a beat. Others are quite general, such as the repeated-note stationary (*bleibend*) figures, or obvious, such as the oscillating (*schwebend*) trills, and the *Pausa*, a silent (*schweigend*) figure (!).[22]

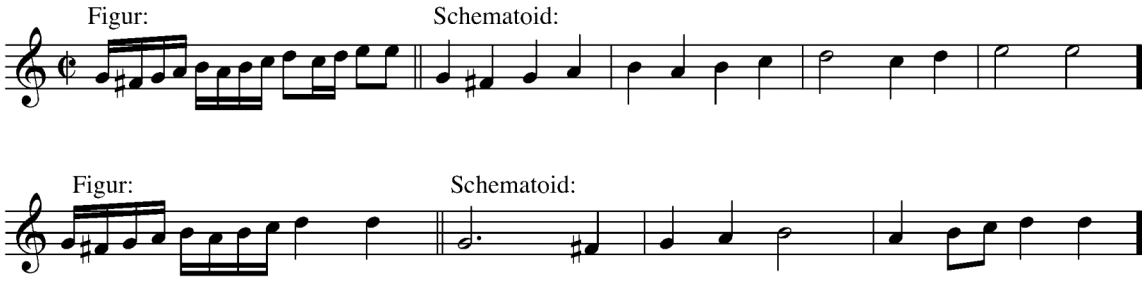
Figure 3.7. Selected Figures from Printz (1696)



Immediately after introducing these isolated figures, Printz dedicates the seventh chapter of his sixth section to developing the notion of the *Schematoid*, a conceptual method for seeing identical melodic patterns with non-identical rhythms as nonetheless related. "A *Schematoid* is a Module [*Modulus*] equivalent to some figure in its intervals, but distinct from the figure in its rhythm [*Prolatione*] or in the way it is applied."[23] Two pairs of *Figur* and *Schematoid* appear below; the first

Schematoid is an exact 4:1 augmentation of its corresponding *Figur*, while the second one is slower but not proportionally so.[24]

Figure 3.8. Printz's *Figur* and *Schematoid*



We must be careful here not to attribute hierarchical thinking to Printz; the *Schematoid* is not a structurally prior melodic shape that underlies the figure itself, but rather an alternate figure that can be seen as a rhythmic variant of the first. However, underlying the concept of *Schematoid* is an awareness of a basic melodic shape out of context, which gives rise to both the *Figur* and the varied *Schematoid*, and also of a method for creating variations by changing the rhythmic contexts of a rather sparse set of intervallic shapes. "From this, it is easy to see the way in which one can discover variations, namely through the variation of figures—particularly when one alters the rhythm [*Prolation*] of one of them, either by placing of a syllable of text under each note or by changing the quick notes to slow ones."[25] Printz is careful to include taste in his discussion of the transposition and sequential repetition of figures; he recommends using a particular module two or three times before switching to another, in order to avoid the distastefulness (*Eckel*) of continuing for too long with the same one.

Even if Printz's discussion does not explicitly mention a melodic skeleton that underlies the variants, the 100 right-hand variations that he provides over a C-B-A-G bass line in half notes suggest that he did view local melodic figures as ways of embellishing a structurally prior line, and not simply as self-standing entities to be strung together. Printz uses these variations, presumably, to demonstrate taste—defined as variety in combination with skillful repetition—but they all reside within the implicit structure of a primary voice in parallel tenths with the bass (i.e., E-D-C-B).

Although many of Printz's variations consist of leaping and arpeggiating figures that might suggest compound-melodic thinking, this can be refuted by examining the other voices feigned by these leaps to other registers. Two of Printz's variations will serve to elucidate the priority given to the figures themselves as entities, above any fidelity to voice leading beyond simply the E-D-C-B descent. In number 18 below, the E-D-C-B strand clearly governs, as it is emphasized metrically in all but the first of the four half-measures, and still emphasized over the first mid-measure boundary by the consecutive E5-D5 in measure 1.

Figure 3.9. Printz's Variation 18

Here, the logic of the diminutions is a pair of arpeggiation figures, each repeated once—a <2-1-0-1> contour in the first measure and a <1-2-1-0> contour in

the second. The result of privileging the integrity of these repeated motives is that no other viable voices are projected: To follow the "upper voice" of the second measure, for example, would yield parallel fifths with the bass and an odd 5/3 sonority over ^2 in the bass, and to follow the "lower voice" in the same measure would yield parallel octaves with the bass. The E in the second measure is particularly telling of Printz's ignorance toward harmony and voice leading; it appears not as a chord tone, but rather as part of a pattern of melodic intervals that repeats to form some coherence in the second measure. Moreover, no additional voice is projected consistently in the first measure; an initial covering G5 is abandoned, giving way to the registrally unprepared G4 in the second half of the measure. Printz's derivation of these arpeggiated diminutions has nothing to do with compound melody in the sense of preserving multi-voice counterpoint in a single line; rather, he quite simply latches onto the single governing voice, the E-D-C-B, and chooses arpeggiated figures that work intervallically above the bass voice.

Variation 47 is anchored to the same voice-leading strand, but subdivides each half note of the first-species skeleton into sub-goals—first, a *circulo mezzo* to reapproach the primary note, and second, a *groppo* to arrive upon the next one. Again, there is nothing polyphonic about the leaps in the right hand; of course, the octaves above each bass note are suitable consonances to be approached by leap, but they do not form a properly independent voice:

Figure 3.10. Printz's Variation 47

The most significant aspect of Printz's diminution technique is that, although each melodic figure is restricted to embellishing a single pitch (and not a directed path from one pitch to the next), the resultant diminutions do not lack a sense of longer-range melodic coherence. This is because a structurally prior, unembellished line (<E-D-C-B> in this case) paves a motivated, melodically fluent track on which the isolated melodic figures travel; the figures are applied to a voice-leading strand that has been preconfigured as part of a contrapuntal progression (parallel tenths in this case).

Vogt's *Conclave Thesauri Artis Musicae* (1719)

At the time of its publication, Moritz Vogt's was the most sophisticated discussion of melodic figures by far, and the only one yet to draw an explicit connection between an underlying voice-leading skeleton and the melodic diminutions that embellish it. The presentation is located in the third part of his *Conclave Thesauri*, in the third chapter of the third *Tractatus*, entitled "De figures simplicibus."[26] Using the same notion of *phantasia simplex* that appears in his pedagogy of canon (discussed in the next chapter), Vogt begins with sequential melodies in long note values, and then shows that each of these can accept a variety

of figures on the surface, yielding a number of possible melodies that all share the same voice-leading pedigree. Since all of the *phantasia simplex* skeletons consist of sequentially repeated melodic intervals, his presentation is limited to melodies with this built-in repetition; this, along with the fact that Vogt invariably keeps the structural pitches of the *phantasia simplex* on the beat in his realizations, limits the sophistication and creativity of his approach. Nonetheless, he is significant for his keen awareness of the hierarchical relationship of *elaboratio* to *decoratio*; crucially, he explicitly demonstrates how one voice-leading structure can accept a wide variety of surface figures, a concept to which the melodic sequence is pedagogically well-suited. For example, a *phantasia* of rising fourths and falling fifths is shown below with three different sets of melodic figures applied to it: The first one uses *messanzae*, the second alternates between *tirata* and *groppo*, and the last alternates between *curta* and *circolo*:[27]

Figure 3.11. Demonstration of Vogt's *Phantasia Simplex* (1719)

Another set of two variations appears below, these based upon a *phantasia* of alternating falling thirds and rising seconds. The first *decoratio* consists of alternating *groppo* and *messanza*, and the second entirely of *messanzae*:

Figure 3.12. Further Demonstration of Vogt's *Phantasia Simplex*

Even though Vogt's application of figures is clearly undertaken in the service of a governing *phantasia simplex*, he does not conceive of each figure as a connection between one pitch of the *phantasia* and the next. Rather, as with Printz, each figure embellishes a single pitch, virtually heedless of where the line moves to on the next beat; that is, a figure specifies a shape with respect to the primary pitch, but not a method of connection between it and the next one.[28] As a result, the figures are more flexible than they might seem, and they are not guaranteed to function smoothly in the context of a line; indeed, it is only the *phantasia simplex*, and not the figures themselves, that guarantees any long-range linear coherence. For example, let us consider the *groppo*, defined as a four-note shape that neighbors the primary note with the pitches on each side of it (e.g., C-D-C-B, or C-B-C-D). In the first variation of Figure 3.12, the *groppo* embellishes a *phantasia* progression by third, so it yields an upper neighbor followed by a passing tone (i.e., C-D-C-B-A); but, in the second variation of Figure 3.11, the same *groppo* appears in the context of large downward leap between *phantasia* pitches, so its fourth note is a far less idiomatic escape tone rather than a passing tone (i.e., E-D-E-F-A). Given a static *phantasia*, the *groppo* would serve as a double-neighbor figure (i.e., C-B-C-D-C). These are just three of

many possible contexts for the same melodic figure, and they illustrate an important difference between our modern conception of melodic embellishment—a highly analytical one that relates each dissonant (or non-chordal) pitch to the consonant (or chordal) one that controls it (e.g., neighbor, incomplete neighbor, passing tone, etc.)—and the historical conception of melodic embellishment—a more improvisatory and locally conceived one that relies upon self-contained modules that can be applied almost regardless of what happens before or after them. Of course, in today's pedagogy of Baroque counterpoint, we *are* concerned with modeling the style and avoiding such unusual dissonances, so the analytical overlay of controlled non-harmonic tones onto intervallic shapes ensures that context matters tremendously; the pitches of a given melodic pattern are suitable or unsuitable based upon their intervallic and harmonic relationships with other voices, and not just their motivic status. Improvisationally, though, there seems to be a middle territory to be charted, where the performer develops the ability to discern appropriate from inappropriate usages of a melodic figure, without becoming paralyzed by thinking analytically about the function of each note, rather than about the application of larger melodic shapes. The latter is not only more manageable than the former, but also indicative of a proclivity for longer units that possess motivic meaning (rather than individual notes that likely do not). This middle territory is approached more closely by a shift in orientation later in the eighteenth century, though, as we will see with respect to Michael Wiedeburg's more goal-directed treatment of melodic figures.

Returning to Vogt, his *decoratio* practice is sometimes more sophisticated than a 4:1 decoration of a quarter-note *phantasia* with sixteenths; he sometimes doubles the surface rhythm so that twice as many figures occupy each note of the *phantasia*. With more activity comes the need for a careful sequencing of melodic figures that transcends mere concatenation. In Figure 3.13, every other pitch of the *phantasia* (i.e., the B, the A, and the G) receives a *groppo* and a *messanza* that encircle the primary note and then lead upward to the next; complementing this, the other pitches of the *phantasia* (i.e., the E, the D, and the C) receive a *circolo mezzo* and then a *tirata mezza* that reach upward to a local melodic climax and then descend continuously to the next note. As a result, the variety created by the alternation of four distinct melodic figures is balanced by the larger coherence and goal-directedness of a line that rises and then falls over each span of four beats:

Figure 3.13. Embellishment of a *Phantasia Simplex* of Alternating 4ths/5ths

Vogt even provides a counterexample of an unmotivated, incomprehensible chain of figures that is not built upon a *phantasia simplex*, in order to demonstrate the necessity of this hierarchical reliance. As expected, he advocates for a balance between too many figures and too few, with the following example serving as an example of straying too far toward the former:

Figure 3.14. Vogt's Incoherent Counterexample

Actually, this florid line is not so bad: A clearly audible middleground features an initial ascent from G through A to B on the downbeat of m. 2, which is neighbored by C from beat 3 of m. 2 through the first half of m. 3; the B returns for two beats and moves to A at the presumed half cadence in m. 4. However, Vogt's pedagogical message seems to be that a series of florid figures has no guarantee of longer-range coherence when it is not conceived as an elaboration of a structurally prior melodic skeleton. In particular, it is much easier to incorporate repetition of melodic figures (and, thus, motivic coherence) when the figures decorate a line that moves consistently and smoothly; surely, the line above can be faulted for its lack of consistency in this regard (save the two *Tirata mezza* figures in m. 2 and the repeated turns and neighbors in mm. 3-4, which do not persist for long enough to count as motives). The emergent lesson is quite profound, actually, when one draws a connection between the desired unity of *Affekt* (which is at least partly due to the consistency of *Figuren*) and the middleground stability afforded by a two-tiered approach to diminution; it is ultimately the *elaboratio* that endows the *decoratio* with its coherence, even if (as with Vogt) that *elaboratio* is discussed only incompletely as a single-line melody. The improvisational benefit of such a realization actually comes as an enormous relief, as the notion of a *phantasia* greatly lessens the burden

of moment-to-moment decision making by allowing the figures to ride on a pre-paved path regardless of which ones the improviser chooses.

Niedt's *Musikalische Handleitung*, second part (1721)

Despite its status as one of the best known diminution treatises of the Baroque, the second part of Friedrich Niedt's *Musikalische Handleitung* is somewhat limited as a *decoratio* manual.[29] As Joel Lester has noted, Niedt's conception of counterpoint—like those of Heinichen and the rest of the anti-Fuxian thoroughbass theorists of the eighteenth century—was a completely vertical one, consisting of the formation of harmonies.[30] More than any other treatise, though, the *Handleitung* paves a direct path from thoroughbass accompaniment to solo improvisation, with diminution technique acting as the crucial link: "In short, here are instructions for applying certain variations to the most common intervals. These are suitable from time to time in thoroughbass, in actual accompaniment, but one can also avail oneself of them as expedients for invention in composition—either extemporaneous or premeditated."[31]

Niedt focuses on diminution in many senses—of the bass, of thoroughbass figures, in variation sets, in suite movements, etc.—but consistently sells himself short in the *Handleitung*. He shows myriad diminution possibilities for a variety of intervallic contexts and then provides examples of longer passages that concatenate several of these modular shapes into a larger span, *saying* that one must be sensitive to context when choosing which patterns to apply where. However, he never

specifies guidelines for tastefully applying *decoratio*, leaving the reader to learn only from his examples (which are passable, but not excellent). He begins with bass diminutions, which occupy chapters 2 through 5. These are organized in the familiar way—by bass interval from steps through octaves in each direction—and, although they include a variety of meters (e.g., 3/1, 3/2, 3/4, 3/8), they are atomistically applied to isolated two-note intervals. Bass diminutions, however, are entirely different from upper-voice diminutions; they are far more complex and less forgiving, given their centrality to the generation of harmony and the effect of changes in the bass on the meaning of upper voices. Niedt does not sufficiently acknowledge this crucial difference, but he does seem to advocate for a context-sensitive approach to applying his myriad bass diminutions (even if, again, he fails to provide specific guidelines for preferring some over others in particular situations): "These variations…cannot simply be applied everywhere as one pleases; rather, one must observe the context [*Umstaende*] and the notes that follow, according to which an informed player will know to curb his spirit of variation and to apply measure and intent."[32]

We might try to deduce these criteria from an example that Niedt offers. Beginning with a bass line in half notes, he works step-by-step to 'plug in' an appropriate formula (*Stück*) for each moment:[33]

Figure 3.15. Modular Diminutions of a Bass Line in Half Notes

Several things are clear here: First, Niedt obviously conceives of these local diminution modules as acting in the service of a pre-existing, skeletal line (shown at

left). He explains the particular figure chosen for each half-measure, but only in terms of the melodic interval of the underlying line (e.g., rising fifth from C to G, falling fourth from G to D, etc.). However, the whole is greater than the sum of its parts here, due to a method of matching figure with context that exceeds random chance. For example, the sequential melodic patterning in mm. 1-2 (i.e., C-G, D-A) invites a rhythmically varied figure in m. 2 that links them together; hence, there is a stepwise ascent in the first half of each measure and a neighbor at each registral apex, but rhythmically altered the second time. There are certainly many other possible diminutions for each of these half-measures that would not support the sequential repetition, so Niedt seems to be choosing the figures in a less myopic way than his rather simplistic explanations admit to. The examples all suggest a preference for balancing faster notes with slower ones and leaping figures with conjunct ones, for constraining the registral range of figures (often by proceeding upward from lower notes and downward from higher ones), for reaching across bar lines and half-measure boundaries by step, and for employing a general consistency of rhythmic type (i.e., sixteenth notes) while still avoiding distastefully frequent repetition.

In the sections on right-hand diminution, Niedt's bias toward chords rather than voice leading leads to many examples of less-than-satisfying arpeggiations, and his list of variations for each thoroughbass figure (e.g., 6/5, 5-6, 7/5/3, etc.) in Chapter 7 appear to be disconnected modules that do little more than arpeggiate a chordal accompaniment, or occasionally connect two chord tones with passing motion. However, the eighth chapter applies these modules in the context of a longer

figured-bass progression, and—although Niedt neither specifies an underlying right-hand voice leading nor mentions a necessary connection from one figure to the next—the realizations betray a keen awareness of voice leading and a commitment to preserving the integrity of lines. (This is true in spite of the moment-to-moment explanations, which seem to portray the selection as akin to picking out of a hat.) An example, which is presented with frustratingly little explanation, will serve to demonstrate this awareness:[34]

Figure 3.16. Niedt's Right-Hand Diminutions on a Complete Figured Bass (with *elaboratio* skeleton added)

With just a few registrally aberrant exceptions—the high A in m. 3, the similar E in m.5, and the sudden return to the soprano register in the penultimate measure—this florid realization demonstrates a rather strict fidelity to an implied voice leading. For example, the arpeggiated patterns of mm. 1-2 use registral dispositions that connect stepwise, in compound melody, with those surrounding them. The 4-3 suspension figure on beat 2 of m. 3 is successful because of the beat-long preparation of the C that precedes it, and likewise for the one in m. 5. The 7-6 chain in mm. 8-10 is realized in such a way as to preserve the integrity of resolving suspensions as well as the parallel tenths in bass and soprano. In short, the choice of beat-long *Stücke* is much more sensitive than Niedt's nondescript explanations would seem to suggest.

The voice leading that governs these *Stücke* has been inserted between Niedt's two staves to show explicitly the *elaboratio* underlying his *decoratio*; this three- and four-voice texture is very close to what a keyboardist would play as an accompanimental realization of the figured bass. So, here is the explicit path between figured-bass accompaniment and improvisation: The former requires the addition of a set of unadorned upper voices that obey the principles of good voice leading, and the latter simply applies modular diminution techniques to those very voices. In a real sense, one does not improvise *over* a figured bass by arpeggiating between chord members, as Niedt's diminution modules would suggest; rather, one embellishes the pre-existing voice-leading structure already implied by that bass. This process paves an improvisationally plausible path across the typical pedagogical spectrum of a

keyboard player, and fills in the gap left by Niedt's explanations. It is clear that he is employing a technique that he never mentions—a technique that, incidentally, requires only the application of learned diminution patterns to voice leading that any accompanist could already create, not a new skill of memorizing myriad florid realizations of individual bass figures.

Indeed, it is the advent of thoroughbass—as a shorthand for the voice-leading structures of functionally tonal progressions—that allows melodic figures to adopt this longer-range coherence. If melodic diminution is regarded in a purely intervallic manner, as the decoration of consonances above a bass (as in the Renaissance, for example, and in Printz to a certain extent), the resultant florid lines are prone to meander. But, as soon as a fully-fledged voice-leading syntax is attached to the bass line (as denoted by thoroughbass figures), the melodic figures are anchored to several simultaneous and consistently directed lines that form the voice-leading generators for a particular progression. It would be easy for us not to give enough credit to the authors of the *Figurenlehre* tradition, since their pedagogy seldom gets past the discussion of short, modular units. With Niedt as an example, though, one can see that the deduction and extraction of higher-level principles from their examples allows us to acknowledge both the sensitivity and the enormous power of melodic figures.

Quantz's Method for "Extempore Variations on Simple Intervals" (1752)

Although not a keyboard treatise, Quantz's *Anweisung* on flute playing displays the same level of polyphonic thinking that is evident in many of the

keyboard treatises of the time; indeed, Quantz very much seems to think like a continuo player. Beginning with the premise that a flautist ought to add graces or embellishments to melodic lines (especially on repeats), and the lamentable fact that many flautists do not know how to do this successfully, Quantz sets out in his thirteenth chapter to teach just enough about thoroughbass to ensure that his readers embellish single-line flute melodies in a way that does not contradict the underlying harmonic progression.

Quantz's incorporation of multiple melodic voices into his pedagogy of diminution cannot quite be called compound melody in the strictest sense, for his presentation lacks any heed for voice leading between pitches of any melodic voice other than the primary one. In other words, he is decidedly unconcerned with implying polyphony with a single-line flute melody; he suggests alternate voices only as a means of generating successful melodic diminutions that go beyond the mundane stepwise ones. (He seems to assume that the typical flautist has no idea where a line ought to leap to, which seems to explain his specification of intervals above and below each note of the model that work with the harmony.) Nonetheless, he shows at least an implicit awareness of melodic figuration as something that is governed by a number of pre-existing voice-leading strands, these determined by the underlying thoroughbass structure. He begins with sixteen paradigmatic melodic patterns, reduces them to quarter-note models, and supplies the figured basses that most commonly support them. Thus, he focuses his treatment of embellishments upon the sixteen *elaboratio* patterns that he regards as the ones most likely to be encountered

in the flute literature of the time. Of course, the models are represented by just a single treble voice, corresponding to the single-line nature of flute playing.

Quantz instructs the player not to obscure the primary note in their variations, but he also provides a helpful set of options for deriving embellishments that do more than simply neighbor around the existing pitches. After all, the more rhythmically dense the variation, the more likely that something more than conjunct motion will be needed in order to maintain an interesting line; this is precisely where compound melody enters the picture. For each of the sixteen models, the original melody is presented, followed immediately by a multi-voice chordal framework that surrounds that melody on both sides. The text specifies which intervals above and below each primary note are in the harmony, and then the sample embellishments are conceived in terms of these stable pitches. Quantz does not present a set of individual *lines* of voice leading for each model that lead through the several harmonic events that underlie it, but his variations—especially the ones that include frequent leaps—make it obvious that such lines are at work. Below is a reproduction of one of these models plus Quantz's variations on it; the figured bass supplied for this model is the obvious one, with parallel tenths between bass and soprano (5/3, 6, 6, 5/3) in the first measure, leading to a root-position dominant in the second measure:[35]

Figure 3.17. Quantz's Variations on a Common Melodic Pattern (A-G-F-E)

The crucial two measures are the ones immediately following the unadorned melodic line, before the variations begin. These are not meant to present a harmonization of the melody; certainly, the lowest pitch of these measures (i.e., C-C-B-G-G) makes no sense as a bass, and is not intended to serve as one. Rather, these two measures simply present the two chord tones above and below the primary

melodic line of A-G-F-E, in order to illustrate a palette of consonant pitches that leaping diminutions may make use of on each beat. As mentioned above, Quantz does not treat these other four lines as part of the essential voice leading of the progression—after all, they cannot be such, for the highest voice would form parallel octaves with the bass throughout—but the melodic diminutions that follow do seem to display a consistency of register that teaches the flautist to conceive of a primary line (to be projected explicitly) as well a number of subordinate ones (to be accessed tangentially).

Following this approach, Quantz presents several types of variations. The simplest type is that which simply adds rhythmic interest to the A-G-F-E descent without suggesting the presence of any other voices; this is exemplified by variations a, b, and p, which are rhythmically sparse enough not to be rendered static by such an elementary technique. An only slightly more intricate method is employed in g, h, i, j, o, and q, where the downbeat line of A-G-F-E is matched with an offbeat line a third lower (F-E-D-C), thereby creating room for passing tones to fill in the space between the voices. The real interest lies in the more complex variations, however, for they systematically leap between distinct voice-leading strands to project the presence of a polyphonic structure beyond the primary stepwise descent. For example, variations c, d, l, and n leap consistently to a covering voice that begins on the high C (e.g., C-C-D-C in most cases, or with slight variants). Quantz expects the reader to complete the following steps for a melodic model such as this one:
(1) Catch up to where a keyboardist with continuo abilities would be with little effort,

by determining the harmony underlying the given melodic structure; (2) use this harmony to determine the stable intervals above and below each of the primary notes; (3) to the extent possible, locate smooth voice-leading paths between the available chord tones of one harmony and those of the next, forming melodically fluent secondary lines; and (4) construct variations that hint at several of these voices through a combination of conjunct (i.e., intra-voice) and disjunct (i.e., inter-voice) motion.

Quantz's conception of compound melody, then, is as jumping between two (or sometimes more) of these pre-formed voice-leading strands. It seems, then, that the seemingly vertical orientation of his presentation (i.e., as intervals above and below each melodic note) is just a pedagogical expedient—something more suitable to the single-line player (and to the single-line notation of the original score) than an entire, imagined voice-leading fabric would be. Authors of keyboard treatises obviously have an easier task than Quantz does, for they can begin with a multi-voice, chordal framework and generate a whole set of voice-leading strands all at once—indeed, as part of figured-bass accompaniment, a prerequisite skill to keyboard improvisation—thereby alleviating the need to resort to the clumsy intervallic conception used by Quantz for flautists. However, it really is not until Michael Wiedeburg's pedagogy of diminution that an improvisational conception of compound melody more sophisticated than Quantz's (or Vogt's, or Niedt's, or Printz's) emerges, which teaches the ability to extemporize a line that actually

projects a consistently polyphonic structure, rather than just to access one or more adjunct, satellite lines when one desires to use a leaping melodic figure.

Michael Wiedeburg's Pedagogy of Diminution

Despite having received very little scholarly attention as such, Michael Wiedeburg's *Der sich selbst informirende Clavierspieler* offers one of the most sophisticated discussions of extemporized keyboard playing of the entire eighteenth century.[36] It includes harmonization methods that approximate the Rule of the Octave, sections on hymn harmonization and the improvisation of interludes, and a long section near the end that, despite appearing in the guise of other topics, elegantly treats improvised diminution. Chapter 10 and 11 of the third volume present the autodidactic *Liebhaber* with extended discussions of interludes and organ points, respectively; however, their real contribution is far less to the improvisation of these rather specific structures than to a more widely applicable technique of improvised melodic diminution. Wiedeburg's application of melodic figures is different in a few ways from those of Printz and Vogt: First, he focuses almost entirely on end-accented figures that begin after the downbeat and include the next one, rather than on ones that occupy an entire self-contained beat. This type of figure inherently demands an orientation toward connecting the pitches on two consecutive beats together, rather than toward filling the space of a single beat; thus, they are goal-directed paths, rather than simply elaborative entities. Such an orientation fits nicely within the context in which Wiedeburg introduces these figures—namely as part of a

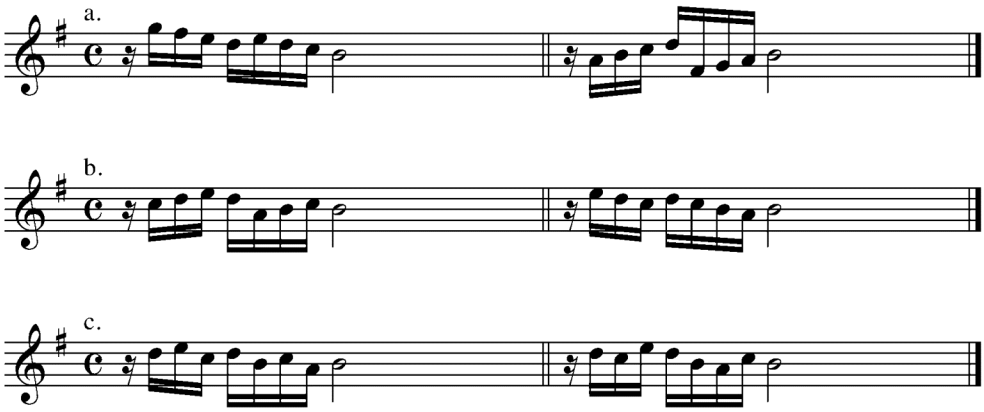
section on the construction of Interludes that bridge across phrase boundaries and connect a note to itself, to a different note in the same harmony, or to one in a different harmony. Aside from trilled neighbor notes and trilled passing tones, the three most important figures employed here are all four notes in length: the *Schleifer* (a continuous stepwise motion in either direction), the *Doppelschlag* (a turn figure beginning in either direction), and the *Schneller* (a double-neighbor figure in either direction); these all span from the second sixteenth-note value of one beat through, and including, the first sixteenth-note value of the following beat.[37] Each of these figures can connect a beat-to-beat melodic interval of virtually any size, which renders them effectively more than just three shapes; in different intervallic contexts, the same figure actually creates quite distinct effects. For example, the upward *Schleifer* figure appears below as connective material for a unison (in which it acts as an initial downward leap followed by a recovery), a rising third (in which it acts as a lower neighbor followed by a passing tone), and a rising fifth (in which it acts as a continuous stepwise ascent); given the same three intervallic contexts, the downward *Schleifer* acts quite differently, now behaving as an upward leap (by fourth, sixth, or octave, respectively) followed by a downward recovery.

Figure 3.18. Wiedeburg's *Schleifer* in Different Intervallic Contexts

Aside from their chameleon-like adaptability to different beat-to-beat intervals, these three figures also yield a huge variety of longer shapes through

concatenation. Accordingly, Wiedeburg's presentation focuses right away on the artful connection of these figures with themselves and with each other; in fact, he hardly deals at all with isolated one-beat figures. He says: "We will now show how one can create all sorts of connective passages [*Zwischen-Spiele*] of any length by making use of these short structures."[38] Examples demonstrate ways of forming a huge variety of two-, three-, and four-beat shapes from these limited raw materials. The figure below contrasts two potential concatenations of two *Schleifer* (a), two *Doppelschläge* (b), and two *Schneller* (c), all of which approach the structural pitches <D5-B4> on the start of each beat:

Figure 19. Wiedeburg's *Schleifer* (a), *Doppelschlag* (b), and *Schneller* (c)



Wherein does the contrast lie between each of these pairs? Two factors determine the larger shape: the intervallic relationship between the downbeat goals, which is the same falling third for all of the examples above, and the direction from which the figure approaches each one of them. For example, in part (a), the shapes approach the D and B from opposite directions—from above in the first shape, and from below in the second one. However, the appearance and sound of these shapes

are more different than their improvisational origins are; the first one neighbors upon the D before passing down to the B, while the second one leaps drastically downward and approaches the B from an implied inner voice. (One could also imagine two additional shapes that blend one upward approach with one downward approach, still based upon the same D-B framework.) Considered in this way, the process of concatenating these figures is both simple and subtle: The remarkable variety of longer shapes that can come even from instances of a single modular figure is derivable from a simple process of combining a rather limited vocabulary of utterances—something that remains eminently plausible as improvised by reducing the number of patterns one needs to memorize. (And, again, it transcends our modern understanding of local passing tones, neighbors, and double neighbors by contextualizing them within a small repository of method-based improvisational shapes.) What is required of the improviser are just an awareness of the structural waypoints of a melody, and some techniques (i.e., figures) for approaching these waypoints.

In the previous chapter, the *cadentiae* of Spiridione a Monte Carmelo were described as instances of *decoratio* applied to underlying voice-leading patterns that, themselves, were not explicitly shown in his treatise. That is, a pupil of Spiridione could memorize the surface-level patterns and deduce from these a number of voice-leading structures for each bass—each of these corresponding to a particular position for the hands and each one accepting countless motivic diminutions. However, the *Nova Instructio* did not explicitly demonstrate the hierarchical relationship between

the two levels of voice-leading *elaboratio* and diminution; Wiedeburg's *Clavierspieler* of a century later, however, does illustrate this distinction unequivocally.

In Chapter 11, Wiedeburg offers ten unadorned voice-leading patterns for two upper voices above a dominant pedal point (numbered 1 through 10), and then provides between ten and twenty variations for each one with rhythmic and motivic diminution applied to them in the form of melodic figures. Three principles emerge from the discussion: (1) In the process of adding diminution to a skeletal framework, rhythmic complementation is steadfastly maintained between the two upper voices (i.e., one sustains while the other is decorated); (2) imitative (and even quasi-canonic) realizations are possible when the same melodic module is applied to the two upper voices in alternation; and (3) when the two upper voices do move simultaneously in shorter note values, it is almost always in parallel thirds or sixths. Shown below is the first of these frameworks, along with the fourteen variations derived from it:

Figure 3.20. One *Elaboratio* Framework and 14 *Decoratio* Possibilities (Wiedeburg)

Each framework is not just a distinct set of voice leading; it is also a basic hand position in which all of the constituent surface variations take place. So, Wiedeburg's organization bears direct relevance to the kinesthetic comprehension of improvisational patterns.

By doubling the rhythmic values of each set of voice leading, Wiedeburg makes room for twice as much surface-level activity, but still within the same hand position as before:

Figure 3.21. Variations on the Same Voice-Leading Frameworks, Doubled in Length

The diminutions applied to the variations above consist largely of the same *Schleifer*, *Doppelschlag*, and *Schneller* figures that pervaded Wiedeburg's discussion of Interludes. Certainly, some of the variations are more melodically interesting while others meander statically within a narrow intervallic range, but they all can be generated by means of the same simple principles. Such a pedagogy of diminution makes it an absolute necessity to conceive of progressions—cadences, phrase openings, sequences, modulations, etc.—as rather concretely pre-formed voice-leading structures. Indeed, the application of diminution figures in real time is plausible only if this is the case. These voice-leading structures increase in length as well; Wiedeburg shows fully embellished realizations in sixteenth notes of ones as long as four measures. In a sense, although a chapter on pedal points may seem an odd place to bury a sophisticated treatment of melodic diminution, the balance between harmonic stasis and a potential for moving upper voices offers a controlled

environment in which to explore diminution technique, while still allowing for sufficient motion to deal with a variety of contrapuntal shapes.

Practical Interlude #1: Wiedeburg's Diminution Method in Practice

Both the improvisational power and the ease of application of Wiedeburg's approach to diminution can be understood most clearly in the form of a practical example. If we want to demonstrate only the application of *decoratio*, then we should seek a starting point that provides only *elaboratio*, the foundational progression for a piece. A *partimento* prelude from the *Langloz* Manuscript serves perfectly in this regard, as it offers a bass line with instructions—but registrally unspecific ones—for a voice-leading structure in the upper lines.[39] My realization is based upon two upper voices, shown on the middle staff, but these are projected using just a single-line melody. The goal here to demonstrate the ability of a very limited repertoire of melodic figures (primarily Wiedeburg's *Schleifer*, *Schneller*, and *Doppelschlag*, except where a different figuration seems especially appropriate) to imply, quite successfully, two upper voices with the intricacies of almost constant suspensions:

Figure 3.22. Prelude from the *Langloz* Manuscript, Realized with *Elaboratio* Framework (middle staff) and Surface *Decoratio* (upper staff)

William Renwick makes the following brief performance suggestion with respect to this prelude: "The continuous quaver motion in the prelude suggests an accompaniment in longer notes with prepared suspensions." Of course, this is but one of several possibilities—one that implies a brisk tempo—but a different possibility is shown above. This one incorporates a prelude texture of perpetual-motion sixteenth notes in the right hand, suggesting via compound melody the same

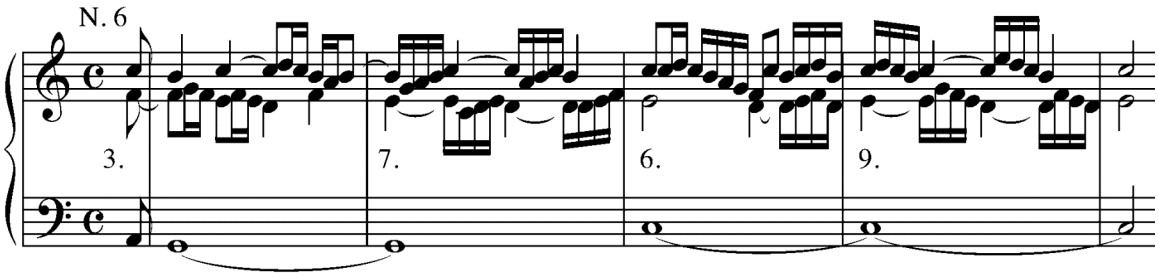
prepared suspensions that Renwick mentions in a quarter-note texture. The improvisational origin of the right-hand surface above lies in the two-voice contrapuntal skeleton shown in the middle staff; supplying this voice-leading framework ourselves, we can then imagine several possible applications of melodic figures, with each technique yielding a different musical surface. The preponderance of *Schleifer* and *Doppelschläge* results in a texture unified by turn and neighbor figures, and punctuated by leaps between registers, but it also frequently employs the technique of implying dissonance through compound melody. Wiedeburg's sophisticated treatment of compound melody will be discussed in more detail below, and demonstrated by means of additional examples.

The Improvisational Efficacy of Imitation and Invertible Counterpoint

Two techniques that play crucial roles in the apprehension of longer diminution patterns are imitation and invertible counterpoint. After illustrating a variety of sixteenth-note embellishments to apply to short voice-leading patterns, Wiedeburg offers some longer ones—two measures of dominant pedal followed by three measures of tonic pedal. (As a sample progression, the authentic cadence with falling fifths is certainly the most fruitful, given its centrality not only to cadences, but indeed to all tonal motions.) To demonstrate the utility of concatenating the shorter patterns, he labels each segment of the longer patterns with the shorter one from which it was derived. The example below shows both the variety of melodic patterning typical of these longer passages, and the relevance of imitative figuration

(as discussed above) in creating local motivic coherence; that is, the patterns used in this example, though concatenated, use imitation as a way to guarantee that the passage does not meander through a hodge-podge of unrelated melodic gestures:[40]

Figure 3.23. ***Decoratio*** **Applied in Imitation Over Pedal Points**



Invertible counterpoint also plays an important role in the acquisition of diminution technique. First and foremost, it is a pragmatic tool; a keyboardist could learn the same sets of embellishments for both dispositions of a two-voice contrapuntal skeleton, assuming that skeleton is invertible. Moreover, the perceptual gain from invertible counterpoint is massive: to the casual listener, it obscures literal repetition, providing the maximum variety of music out of a minimum of materials and techniques. Wiedeburg makes this explicit, as seen in the figure below, which reproduces a contrapuntal framework, its inversion, and the first two of seven diminution options that Wiedeburg applies identically to both registral dispositions:[41]

Figure 3.24. Same *Decoratio* Applied to *Elaboratio* Frameworks Related by Invertible Counterpoint

Aside from expediency, the inclusion of invertible counterpoint in this pedagogy serves to underscore several of the other techniques that Wiedeburg emphasizes: the predominance of parallel sixths and thirds (which retain their utility in inversion), the rhythmic complementation and imitation between voices (which function identically in inversion), and the hierarchical process of learning a contrapuntal framework (and, in this case, its inversion) and then a set of diminutions that can be applied to it.

Practical Interlude #2: Applying Imitation and Invertible Counterpoint to *Decoratio*

The following *partimento* prelude, number 45 from the *Langloz* Manuscript, consists of the same five-measure phrase—an expansion of tonic, a circle-of-fifths sequence, and an authentic cadence—repeated five times: in the tonic, the relative major, the subtonic, the minor dominant, and finally the tonic again. A realization could easily become pedantic if exactly the same figuration *and* registral ordering

were used all five times, but it is also not necessary—or even desirable—to stray toward the other extreme by varying both of these parameters each time. Indeed, invertible counterpoint *must* play a role in a successful application of diminution to this thoroughbass framework.

Figure 3.25. Prelude from the *Langloz* Manuscript, Realized Using Imitation and Invertible Counterpoint

decoratio strategy #1
registral ordering #1
decoratio strategy #1 (ties replace rests to make sevenths explicit)
registral ordering #2

decoratio strategy #2
registral ordering #1
decoratio strategy #2
registral ordering #2

I began by adding two upper voices in a continuo-style realization, to serve as an *elaboratio* framework (shown on the middle staff). The initial voice leading, marked as Registral Ordering #1, alternates with its inversion, called Registral Ordering #2; this economy of means provides variation throughout the prelude without necessitating the production of more than a single version of the upper-voice counterpoint. Some of the sequences are figured with sevenths and some are not;

however, the same basic voice leading is shown for both for simplicity, and the particularities of the surface *decoratio* (i.e., rests versus ties) determines whether interlocking sevenths are projected explicitly in each case.

In contrast to the last demonstration, however, the musical surface (shown on the upper staff) maintains a three-voice structure (i.e., bass plus two upper voices). In order to create variety out of an economy of resources, the same *decoratio* strategy is applied to both registral orderings of the invertible counterpoint, which simplifies the improvisational process tremendously while feigning a different surface to maintain interest. Moreover, in places where the bass consists only of quarter notes, I have employed imitation between the two upper voices as a way of preserving constant rhythmic activity and fostering motivic unity, while alleviating the need to think about two florid voices at once; the rhythmic complementation between the two upper voices is both more desirable and more improvisationally plausible than the alternative. The first two phrases (in C and E-flat) use the same *decoratio* on the two orderings of the invertible counterpoint. The third and fourth phrases (in B-flat and G) repeat this alternation of voice-leading dispositions, but apply a slightly modified *decoratio* strategy that features smoother, stepwise figures in sixteenth notes rather than the leapfrogging thirds that yield escape tones in the first two phrases. In the final phrase in tonic, the original *decoratio* strategy returns, but applied to the opposite registral ordering from that which occurred in the initial tonic statement.

The result is an improvisation that makes use of extremely limited resources—a single invertible counterpoint in the two upper voices and two strategies

for realizing this as an imitative musical surface—but incorporates enough variety to sustain interest through five transpositions of exactly the same figured bass. It applies Wiedeburg's treatments of imitative complementation between voices and invertible counterpoint and demonstrates the remarkable efficiency of combining these variable strategies in improvisation.

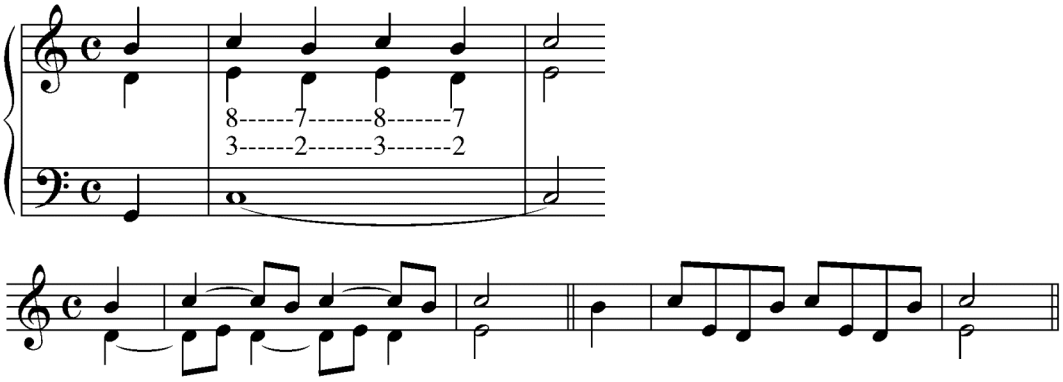
The Rhythmic Derivation of Compound Melody and Implied Dissonance

Most of the melodic diminution techniques discussed so far are conjunct; they embellish a single structural pitch with mostly steps and skips of a third. The large leaps that do occur tend to usher in alternations between voices, rather than simultaneously maintaining an entire polyphonic texture. Any approach to extemporizing a musical surface that neglected to cover compound melody would be incomplete, though, not only due to the indispensable role that this technique plays in eighteenth-century keyboard music, but also since it would miss out on possibilities for employing dissonance beyond the tightly controlled embellishment of consonant downbeat pitches. Wiedeburg addresses compound melody through a three-stage conceptual framework that moves from multiple voices in rhythmic alignment, to the same voices displaced by ties (thereby introducing retardations and suspensions), to the clever implication of this multi-voice framework within a single sounding voice—all the while maintaining rather strict fidelity to the (either sounding or imagined) voice-leading structure. The clever kernel here is the idea that rhythmic displacement makes room in a multi-voice framework by rendering the attacks successive rather

than simultaneous, thereby offering a chance for one compound-melody voice to weave between registers and include all of these attacks.

Beginning with twenty distinct voice-leading options for two upper voices above a tonic pedal, Wiedeburg subjects each of these to various sorts of rhythmic displacements; the displacements always take the form of a sub-metrical delay of a voice moving up by step (i.e., retardation) or down by step (i.e., suspension). Then, he renotates these displaced two-voice structures as single-voice ones in compound melody, essentially summarizing the same series of attacks by means of leaps rather than sustained two-voice counterpoint. The figure below collates the steps of this conceptual progression for one voice-leading structure:[42]

Figure 3.26. Three-Stage Derivation of Compound-Melodic *Decoratio*



Another voice-leading structure appears below, along with four different applications of displacements that each result in a distinct compound-melodic shape. The strategy here is quite simple, namely to apply displacement to only one voice per beat; so, the four clearest methods for doing this are to displace the entire upper voice, the entire lower voice, or the two voices in alternation beginning with either the upper or the lower. It might not be immediately apparent from the four compound

melodies themselves that they were all derived from the same displaced two-voice counterpoint; this feigned variety is yet another important instance of the large improvisational potential of a manageably small number of memorized patterns:

Figure 3.27. Derivation of Compound Melody from Rhythmic Displacement

Making this three-staged transition—from two aligned voices, to two displaced voices, to compound melody—is all that is required for the improvisation of compound melody. Admittedly, Wiedeburg's frequent usage of upward-resolving retardations as equal complements to downward-resolving suspensions is stylistically questionable, but it is a savvy pedagogical device. Moreover, the effect of the retardations is softened considerably by compound melody; rather than literally sustaining as delayed upward motions, they end up sounding as if they might have

been present since the onset of the beat (i.e., with no delay at all), and the compound-melodic voice simply arrived later upon them than upon the other voice(s). By learning both types as equally plausible, an improviser develops the permutational flexibility to realize the same underlying two-voice framework in all possible registral and rhythmic orderings.

We can derive convincing compound melodies from voice-leading structures that have displacement dissonances added to them, and we can also use compound melody as a means by which to incorporate accented dissonance (and thereby more energy and motion) into a contrapuntal skeleton otherwise dominated by the placid stasis of consonance. Wiedeburg begins with a three-part voice-leading model in first species (i.e., with all aligned attacks); like many of his sample progressions over a pedal point, this one is sequential.

Figure 3.28. Three-Voice *Elaboratio* as a Basis for Compound Melody

The model is then subjected to rhythmic displacement in the form of retardations, suspensions, and anticipations. Below, variations 1 and 4 (of six) show the effects of these displacements. The labels on top denote the type of displacement (Retardation or Anticipation) as well as the location relative to the measure (*a* or *b*) for each of the three voices (*o*, *m,* and *u*). The goal of these displacements is to stagger the attacks of new pitches sufficiently to open up a path through which the derived compound-melodic voice will weave. (After all, it is not possible for a single

voice to be in three places at once; thus, the simultaneous attacks of the model above would not be suitable.)

Figure 3.29. Rhythmically Displaced *Elaboratio* (based upon Figure 3.28)

Despite looking very different, the quarter-note lines that appear below are the result of the simplest step of this process. Wiedeburg simply takes all of the attacks of the displaced voice-leading structures above, and deposits them into single, compound-melodic voices that summarize the voice-leading motions of the multi-voice structures without sustaining the voices. These quarter-note lines are the attacks-only versions of the generating three-voice structures.

Figure 3.30. Quarter-Note Summaries of Displacements in Figure 3.29 (i.e., attacks only)

The quarter-note lines can then be embellished by means of passing, neighboring, and arpeggiating eighth notes. The result is an eighth-note line that weaves deftly through, and implies, the chordal texture that derives it. Thus, the process of creating compound melody consists of the following steps: add retardations, suspensions, and anticipations to stagger the attacks of a first-species voice-leading progression; capture only the attacks (but not the sustained voices) of this displaced version with a compound-melodic voice in quarter notes; and then embellish this quarter-note line with more florid eighth notes. Such a method is easy to practice and efficient to remember, but derives quite sophisticated melodic shapes, dissonances, and rhythmically implied polyphony from the same simple voice-leading structures that underlie *decoratio* technique from the very beginning:[43]

Figure 3.31. Eighth-Note Diminution Applied to Quarter-Note Summaries in Figure 3.30

The same process of deriving compound melody is also demonstrated with four-voice textures, displaying an even more sophisticated relationship between the addition of rhythmic displacements and the consequences that they have for the shape of the eventual compound-melodic line. The clever conceit in Wiedeburg's pedagogy resides in the realization that compound melody can only imply a multi-voice texture by getting to different voices at different times, a process for which a foundation can be laid by anticipating and delaying the motion of voices in the original texture.

Permutational Variations on Register and Melodic Shape

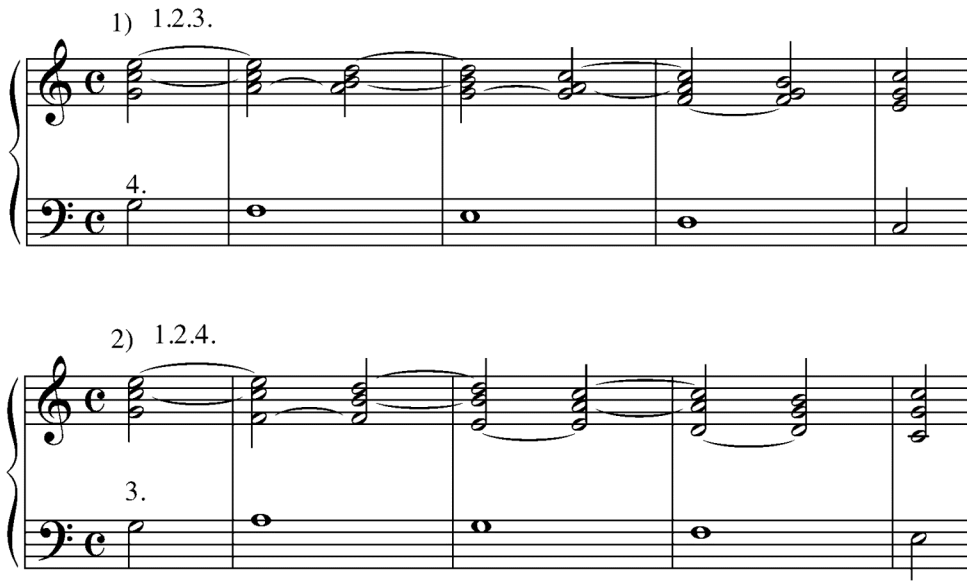
The last section of Wiedeburg's chapter on organ points diverges somewhat from the approach taken earlier on. The preceding sections presented copious examples of each process as but a limited sampling of a virtually limitless set of possibilities, but Wiedeburg adopts a permutational approach at the end in order to show, more comprehensively, the scope and improvisational fruitfulness of a particular technique. The two processes discussed in this last section are registral reordering and the design of compound-melodic figures.

He begins with a sequential *Satz* in the four upper voices (assuming a dominant pedal tone underneath these); the interlocking seventh chords in each half-measure are crucial here, for they are maximally invertible and, thus, allow for absolute permutational flexibility among the four voices. (One might think of this progression as extending the cadence backward, using the falling-fifths root motion to guide the progression throughout the entire circle of fifths.)[44]

Figure 3.32. Wiedeburg's Permutationally Flexible *Satz*

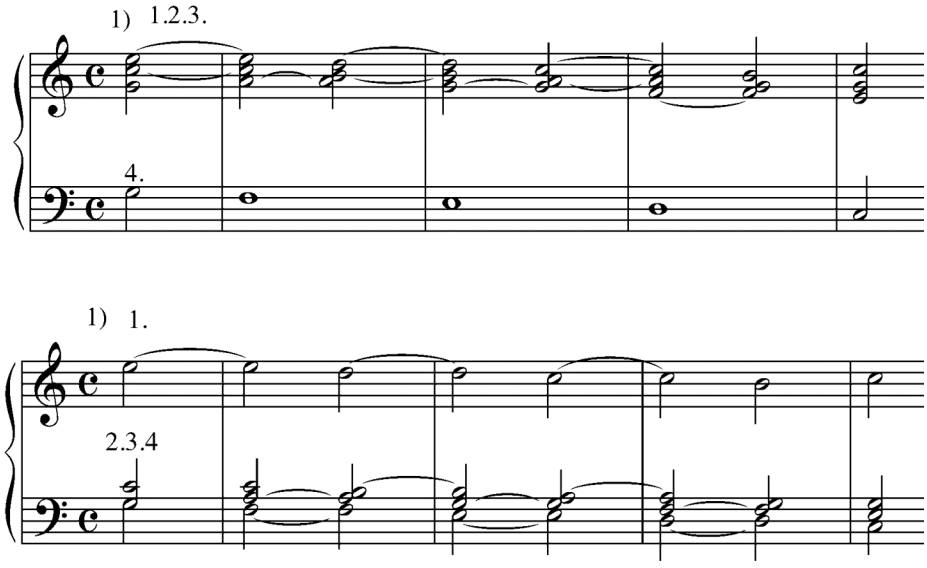
Designating the four voice-leading strands as 1, 2, 3, and 4 (with 1 referring to the original soprano, 2 the original alto, and so on), he creates two-hand dispositions of the same progression by dropping one or more voices by an octave—exactly akin to the way in which jazz arrangers and pianists think of "dropping 2" or "dropping 2 and 4" from a close-position chordal voicing. (In fact, the goals seem to be the same here as for jazz musicians, namely to divide the voicing between the two hands and to yield desirable soprano-bass counterpoint, such as tenths in drop-2.) The resultant dispositions are then themselves labeled, and each of the four original voices are marked in whichever register they occupy.[45] The first three are shown below:[46]

Figure 3.33. Registral Dispositions of the *Satz* (i.e., drop-4, drop-3, and drop-2)



Once these dispositions are created, they are identified by their highest and lowest voices; each one can be varied registrally while still maintaining its identify, as long as the outer voices remain constant and only the inner voices are inverted or moved up or down by an octave. Below are four variants on disposition #1, which distribute the four voices differently between the two hands (i.e., 1+3, 3+1, and 2+2) and, in the case of the last one, add doublings for a fuller two-hand texture:

Figure 3.34. Variants of the Drop-4 Disposition (#1 of Figure 3.32)



From this denser last structure, Wiedeburg then shows several embellishment possibilities, including the addition of sixteenth-note arpeggiation to either the right hand or the left hand, or to both voices either successively or simultaneously. The goal of these distinct registral configurations seems to be to cultivate a kinesthetic awareness of available options for where to place the hands, which can then be varied by means of local rhythmic and melodic figures.

In this whole section, Wiedeburg's intent is to demonstrate the myriad hand positions, textures, and even distinct figured-bass patterns that can all be derived from a simple four-voice progression in close spacing. Of course, this particular progression is cherry-picked, to some extent—not every one is so invertible and flexible—but the permutation of registral ordering can nonetheless be an important tool for extracting additional variety out of a contrapuntal structure. Moreover, it is

an implicit demonstration that a figured bass represents a multitude of potential voicings and spacings of its constituent voice-leading strands, not just a single one.

Wiedeburg's other invocation of permutational variation is with respect to the most local decisions of constructing compound melody—namely, the order in which to reach each of the implied constituent voices of a framework, and the resultant shape of the compound-melodic pattern. Using the three voices of the right hand as in the last figure above, he shows the six permutations of low voice, middle voice, and high voice that fit neatly into a compound meter:[47]

Figure 3.35. Compound-Melodic Figurations Permuting the Last Right-Hand Structure of Figure 3.34

By employing two of the above permutations in alternation (i.e., half a measure each), more interesting, measure-long patterns obtain, such as the two below:

Figure 3.36. Compound Patterning (Alternations of Two Local Figuration Types)

Wiedeburg does the same for the twenty-four permutations of a four-voice structure, demonstrating their application in simple meters (e.g., eighth notes in common time); likewise, he alternates two such patterns in order to yield shapes that balance immediate contrast with measure-to-measure sequential repetition. The number of two-unit combinations that can be derived from a storehouse of twenty-four permutationally-related arpeggiation shapes is quite unwieldy (although Wiedeburg shows them all!), so the pedagogical intent does not seem to be that the student memorize each of these distinctly. Rather, they are meant to illustrate the huge number of possible combinations, and the relative improvisational ease with which a keyboardist could derive any of them in real time—that is, by placing the fingers exactly where they would be for a sustained playing of the underlying progression, and simply breaking the three- or four-note chords in some way appropriate to the musical context at hand.

Practical Interlude #3: The Permutational Generation of Figuration Preludes

This part of Wiedeburg's pedagogy is directly relevant to the improvisation of figuration preludes; mastering compound-melodic permutations is an extremely

efficient method of cultivating improvisational flexibility with respect to the shapes of the figurations themselves. An *elaboratio* framework for the first section of a figuration prelude appears below, including the opening expansion of tonic, the sequence that follows, and the cadential arrival upon the dominant. (The dominant pedal, final cadence, and tonic pedal that would conclude the piece are not shown here).

Figure 3.37. *Elaboratio* Framework for the Opening of a Figuration Prelude

To form an arpeggiated figuration, the improviser could conceivably play the voices of each chord in any order, which is a simple matter. However, as Wiedeburg demonstrates, the construction of a sensitive compound melody requires an awareness of the implications of dissonance that each possible permutation has. So, the ideal next step is to introduce rhythmic displacement into the homophonic framework shown above, focusing on those places where suspensions, retardations, and/or anticipations can be tastefully introduced. One possible displacement scheme is shown below, which delays the soprano voice significantly (as either a suspension or a retardation, depending on contour) and the middle right-hand voice slightly (as a somewhat less poignant suspension or retardation):

Figure 3.38. Displacement Applied to Right Hand of *Elaboratio* in Figure 3.37

The strengths of this particular displacement strategy are that the interesting moving line in the tenor voice (particularly in mm. 1-2) is made salient by its status as the first voice to enter in each chord, and that the soprano voice (which features the greatest number of stepwise descents) is given the largest, and thereby most expressively potent, displacement. The middle voice acts as a quasi-pedal through this opening, and indeed throughout the excerpt beyond this as well, moving infrequently and by small intervals; to add some interest to this stasis, the embellishing neighbor motion of the eventual surface figuration will be placed in this voice.

Finally, these displaced versions are rendered in an attacks-only manner, as a compound melody that implies the dissonances that were literally sounding before. The surface realization of the displaced voice leading from above is shown below:

Figure 3.39. Compound-Melodic Realization of Displacements in Figure 3.38

This partial prelude makes use of just one permutational possibility, chosen based upon its suitability to the dissonance tendencies of particular voice leading at hand. A skilled improviser could apply any permutation, or combination of permutations, at a moment's notice in order to navigate a different set of circumstances tastefully and expressively. Such an approach to compound melody offers a quick way to construct a huge variety of surface figurations, as well as—and this is absolutely crucial—a reliable tool for precisely controlling the dissonances implied by each compound-melodic choice. The method is well-suited to developing both the array of choices and the fluent awareness of each that characterize an expert improviser.

By far the most didactic treatment of compound melody, Wiedeburg's discussion of organ points in Chapters 10 and 11 is improvisationally fruitful far beyond the limited scope of pedal points and interludes. To the extent that compound melody is essential to an idiomatic musical surface on keyboard, Wiedeburg's presentation of diminution can be seen as the most sophisticated culmination of a tradition that had developed over the course of the seventeenth and eighteenth centuries. Its greatest significance perhaps lies in the extent to which it answers one of the essential questions of improvisational efficacy: How can one learn to extemporize a motivated melodic line in the longer range through the manipulation of modules that operate primarily in the very short range? The answer is that these figures, though modular, are granted context through their subservience to a melodic middleground, and interest through their potential to combine in countless novel

ways. Thereby is born the potential to extemporize an impressive variety of melodic utterances by means of a manageably small set of generative tools.

Conclusion

Having explored representative treatments of the pedagogical lineage of keyboard diminution practice, we are now equipped to reckon the infinitely many musical surfaces that can be rendered out of a particular *elaboratio* framework, and the huge network of *decoratio* tributaries that constitute the lowest level of the improvisational hierarchy. Each of these can make use of a different texture, different surface motives, a different rhythmic character, a different permutation of invertible voices, and so on—and, therefore, each has the potential to evoke a subtly different character and expressive effect. Indeed, the power of teaching and learning diminution technique as something separate from—and interacting hierarchically with—the voice-leading progressions that generate the syntactic skeleton of the music, lies precisely in this potential variety. To learn some progression—say, a circle-of-fifths bass line with interlocking 7-6 suspensions, or a cadential formula—as something that *ought* to be realized by means of a finite set of learned surface possibilities (as taught by the *modi* of Durante's *partimenti diminuiti*, for example) is to impoverish improvisational learning greatly. It would be tantamount to learning oration (or, for that matter, persuasive writing) by memorizing, *verbatim*, a set of exact wordings that ought to be used to express each idea; this is an important start toward native fluency, but its generative power is limited to the exemplars that one

has encountered and memorized. To the extent that a hierarchical separation exists between progressions and surface realizations, and that any constituent of one (within reason) can interact with any constituent of the other, the memorial apparatus of improvisation is both highly efficient and profoundly potent.

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[1] Christensen 1992, 113.
[2] Lester 1992, 60-61.
[3] Gjerdingen 2007a, 25.
[4] Gjerdingen's online repository of Italian *partimenti* is, by far, the most thorough and valuable of these resources.
[5] Christensen 1992, 107.
[6] See, for example, Derr 1981.
[7] Gjerdingen 2007a, 6.
[8] Temperley 2006, 287-8.
[9] Wiedeburg, Volume 3, Chapter 12, S42 [translation in Harrison 1995, 148-151].
[10] I do not, however, completely discount the improvisational fluency afforded by concentrating on a limited number of recognizable idioms, as has been articulated elegantly in a more recent work of Gjerdingen (2007b, 123). Drawing upon John Sinclair's distinction between the open-choice principle and the idiom principle, he makes the following argument: "Figured bass could provide the vocabulary of chords—the lexicon—for filling the open-choice slots, but a master would be required to teach the large repertory of unitized phrases—the phrasicon—needed for fluency. Without the phrasicon, the result would sound like the utterances of a nonnative speaker." This, it seems to me, is an argument in support of longer *elaboratio* patterns (i.e., schemata) rather than shorter ones—that is, syntactic units rather than individual chords—but it does not discount the customizability of an improvisational knowledge base beyond a stash of communal idioms and clichés.
[11] Gjerdingen 2007a, 455.
[12] Sanguinetti 2007, 53.
[13] Gjerdingen 2007b, 105.
[14] A particularly interesting contrast in this regard is that between the two seventeenth-century theorists Christoph Bernhard, who was interested in figures for written composition, and Johann Christoph Stierlein. Joel Lester (1990) discusses this difference of motivation in detail: "Bernhard is concerned with the propriety of these usages in composition. Though he recognizes the origin of many figures in improvised performance, he is most concerned with what 'might also be written down as well.' Stierlein, to the contrary, is not at all concerned with composition in this section of his treatise, but rather with what a singer should know about

improvisation." (102) At present, we are concerned with just those treatments of melodic figures that are concerned with—and relevant to—the skill of improvisation.
[15] See, though, Bartel 1997, which focuses intensely upon their rhetorical significance.
[16] Williams 1985, 343.
[17] *Ibid*., 328.
[18] *Ibid.*, 339.
[19] Paumann 1452, 32.
[20] Santa Maria 1565, Book 1, Chapter XXIII (1991 translation, 161)
[21] Printz 1696, 47: "Figura ist in Musicis ein gewisser Modulus, so entstehet aus einer / oder auch etlicher Noten Zertheilung / und mit gewisser ihm anstaendiger Manier hervor gebracht wird."
[22] Johann Walther rehearses a taxonomy of melodic figures nearly identical to Printz's, and indeed cites the third part of the *Satyrischer Componist*, in *Praecepta der musikalischen Composition* (120ff., 151ff.). Most of the figures are the same (e.g., *Accento*, *Tremolo*, *Groppo*, *Circolo mezzo*, *Tirata mezza*, etc.), but Walther's presentation is oriented much less toward performance than Printz's, focusing instead on the application of figures to the written composition of pieces (*Sätze*) and the avoidance of errors in that enterprise. The *Lexicon* also includes entries on several figure types (e.g., *Figura bombilans*, *Figura corta*, *Figura muta* (!), *Figura suspirans*, *Circolo*, *Groppo*, *Messanza*), many of which cite Printz. Several are defined explicitly as tools for diminution, such as the *Groppo*, "a type of diminution [*Diminutions-Gattung*]," (292-3), and the *Fioretti*, "manners of diminution [*Diminutions-Arten*], or decorations [*Ausschmückungen*]…" (246). Elsewhere, he defines *Diminution* as "a coloration where one divides one long note into several small ones. There are several types of them…" (209) and he goes on to list them, divided into stepwise and leaping species. Walther's examples are just of the individual figures themselves and, like his definition, show an understanding of the units as embellishments of individual notes; there is nothing here to suggest the broader context of a longer line, or an understanding of figures as embellishing a path rather than an isolated note. As a result, Walther's discussion of figures is somewhat disappointing when compared with Printz's.
[23] Printz 1696, 69: "Schematoides ist ein Modulus, so einer Figur zwar / denen Intervallen nach / gleichet / aber doch Prolatione, oder an der Arth hervor zu bringen / von derselben unterschieden ist."
[24] *Ibid*., 70.
[25] *Ibid*., 70: "Hieraus ist leicht zu sehen / auff was Weise man ihre Variationes erfinden kan / nehmlich aus denen Variationibus der Figuren: Wenn man nehmlich die Prolation derselben veraendert entweder mit Unterlegung einer Sylbe des Textes unter jede Note / oder mit Veraenderung der geschwindern Noten in langsamere."
[26] Vogt's named figures are the usual ones (e.g., *Groppo*, *Circulus*, *Tirata, Figura curta*) as well as the *Messanza*, a four-note catch-all for shapes consisting of at least one—and often more than one—leap.

[27] Vogt 1719, 145.
[28] In a sense, the smooth connection from one beat to the next *is* guaranteed by the overarching melodic *elaboratio* that governs the diminution. However, this only protects the metrical privileging of these structural pitches; it does nothing to assure a smooth transition *into* each one of them.
[29] Joel Lester has discussed Niedt's *Handleitung* in some detail (Lester 1992, 66ff.), focusing on diminution as interpolation in Niedt's presentation of added harmonies: "Niedt's diminutions encompass not only foreground embellishments such as added passing tones, neighbors, and arpeggiations, but also interpolations on a larger scale in the form of added harmonies. These harmonies are themselves capable of elaboration." Under the lens of the present study, these types of diminutions would constitute variants on the *elaboratio*, rather than techniques of *decoratio* itself; it is in the latter sense that Niedt's treatise lacks somewhat.
[30] Lester 1992, 68.
[31] Niedt, Book 2, Chapter 2, §21: Dieses waere also kuerzlich die Anweisung / wie durch die allergemeinsten Intervalla gewisse Variationes anzubringen: es sey nun / dass sich dieselbe im General-Bass / beym wuercklichen accompagnement, dann und wann passen wolten; oder aber / dass man sich derselben in compositione vel extemporanea, vel praemeditata dergestalt bediene / dass ein und anderes Huelffsmittel zur Invention daher zu holen sey.
[32] Ibid, Chapter 2, §23: Diese Variationes der eizigen Notae G, bis No. 15, inclusive, lassen sich bey Liebe nicht allenthalben anbringen; sondern es sind die Umstaende und darauf folgende Noten zu betrachten / nach welchen ein Verstaendiger schon seinem Variations-Geist Einhalt zu thun / Maasse und Ziel zu setzen wissen wird.
[33] *Ibid*., 27.
[34] *Ibid*., 71-72.
[35] Quantz 1752, 143.
[36] Harrison 1995 provides a partial translation with a commentary that focuses mostly on other aspects of Wiedeburg's presentation; it does not treat his pedagogy of diminution in any significant way. Christensen 1992 also mentions Wiedeburg just briefly as a treatise that employed the *Régle de l'Octave* (though not by name); the technique of harmonization offered by this earlier part of the treatise is a less interesting facet of the overall work, I think, and it is certainly less novel than the later section on diminution. There is also a very early article on Wiedeburg's treatise by Marvin Bostrom (1965).
[37] The term *figura suspirans* applies to any three-note figure that leads into the start of a beat, but the three distinct shapes of Wiedeburg's *Schleifer*, *Doppelschlag*, and *Schneller* distinguish among three different melodic shapes that all fit the rhythmic requirement of the *figura suspirans*.
[38] Wiedeburg, 572: "Es verdienen aber diese kurze Saetze den Namen der Zwischen-Spiele nicht, sondern es sind vielmehr gewohenliche Manieren in langsamen Noten, als Schleifer, Doppel-Schlaege und Schneller. Wir wollen jetzt zeigen, wie man nach

Anleitung dieser kurzen Saetze allerhand Zwischen-Spiele von beliebiger Laenge machen kan."

[39] From the Prelude and Fugue 51 in E flat major, mm. 1-9 (Renwick 2001, 92).

[40] Wiedeburg, 685.

[41] *Ibid*., 688-9.

[42] *Ibid*., 661-72.

[43] *Ibid*., 711-13.

[44] *Ibid*., 744.

[45] Wiedeburg's invocation of permutation as a source of musical variety is characteristic of the sorts of dice games and permutational composition exercises that emerged in the first half of the eighteenth century. With respect to this decidedly Enlightened approach, one thinks, for example, of Kirnberger and Riepel, although Wiedeburg's permutations are different from theirs; his focus is on concrete, learnable techniques for generating improvised music from scratch, not on esoteric games and cut-and-paste procedures.

[46] Wiedeburg, 744-5.

[47] *Ibid*., 750.

Chapter 4: The Nature of Imitative *Elaboratio*

"Creative freedom in improvisation comes from combining well-known and often repeated fragments into a whole. Only when many of the patterns and processes have become habitual through repetition can the improviser focus on the refinement and creative arrangement of such patterns."[1]

When one thinks of imitative keyboard improvisation during the Baroque, a pedagogical genre that immediately comes to mind is the *partimento* fugue—a topic on which much has been said.[2] Building upon William Renwick, who sees *partimento* fugues as the essential link between a basic harmonic framework and an elaborative contrapuntal texture,[3] Bruno Gingras understands them as the pedagogical bridge between thoroughbass exercises and fully-fledged keyboard fugues. Noting the improviser's task of rendering a fugue from a somewhat sparse notation, he lists the two skills required for this task—the ability to remember thematic materials (i.e., subject and countersubject) and incorporate them into the contrapuntal texture, and the acquisition of contrapuntal commonplaces (e.g., scalar descents, harmonizations of a chromatic melodic line in alternating thirds and sixths).[4]

In fact, accounts of the *partimento* fugue seem to suggest a rather significant reorientation of fugal improvisation technique in light of the more bass-driven, harmonically oriented thoroughbass practice of the Baroque. Renwick views the divide between it and the older, contrapuntal composition of the Renaissance as quite clean, seeing the *partimento* fugue as "the perfect reconciliation and union of the old art of counterpoint, the legacy of Palestrina, with the new art of triadic harmony…. Contrapuntal composition by the layering of melodies or counterpoints on a given *cantus firmus* was replaced by a new harmonic and voice-leading approach."[5] Similarly, Alfred Mann notes a steady trend away from strict counterpoint and toward

harmony: "If we review the fugal theory of the Renaissance, we find that it traces techniques of composition from the strict canonic to the free imitative manner and finally to the harmonically oriented fugal treatment of a theme."[6] Recently, Maxim Serebrennikov has emphasized the complete stylistic separation of the thoroughbass fugue: "[I]t is apparent that thoroughbass fugue is not merely an inventive, clever form of notation for imitative, multi-voiced textures, but an independent type of fugue, having its own recognizable features."[7] Among these features, he says, is the accompaniment of the theme with naked, chordal sonorities, a practice lamented by Mattheson in *Der vollkommene Capellmeister*.

There is no doubt of the pedagogical expediency of the *partimento* fugue as something that took advantage of—and built upon—a set of figured-bass skills that keyboard players would already possess, and as something that rooted imitative improvisation in the thoroughbass tradition. However, both the pedagogical orientation and the prerequisite skills of the *partimento* fugue extend a more continuous tradition of fugal improvisation stretching back from the eighteenth century, through the seventeenth and into the mid-sixteenth. The emergence and significance of both functional tonality and thoroughbass during the seventeenth century are undeniable, and there are certainly important differences in style and genre across these centuries and between different geographical centers, but I suggest that the basic techniques of improvising imitative polyphony did not significantly change through this time period.[8] That is, although thoroughbass offered a far more precise notational system for representing and accompanying fugal subjects—indeed,

corresponding to the far more particular syntax of harmony and voice leading of the new tonal system—it can be understood more completely as the culmination of an imitate-and-harmonize technique that had already been present (at least in some form) since the Renaissance. The functional syntax of harmony is an important difference, which places the voice leading that had always been a part of imitative writing in service of harmony and thoroughbass rather than a *cantus firmus*; however, the nature of imitative improvisation is not completely reoriented.

Moreover, I am interested in the types of patterns that a keyboard player could have learned in order to enable the improvisation of fugues *without* the shorthand provided by thoroughbass fugues. Too much emphasis has been placed on the extent to which a fugue is *encoded* by the shorthand notation of a *partimento*, and not enough on the methods by which a player could actually *improvise*—and not simply realize—a fugue. The generative utility of such a shorthand is limited: Beyond viewing the *partimento* as an end in itself (i.e., as something to be realized), it is certainly true that the exemplar-based learning espoused by the entire *partimento* tradition carries over to independent improvisation by teaching familiar patterns and strategies, but the patterns and strategies of a fugal exposition are far more intricate, and far less intuitive to grasp from exemplars, than the generic voice-leading progressions that can be easily learned from *partimento* preludes, for example. Indeed, one of Serebrennikov's four categories of thoroughbass fugue is the improvised one—that is, the one without notation—but he says nothing at all about what a player would need to learn in order to achieve this independence. To

improvise a fugue without a shorthand, a player would need a very specific idea of the order and arrangement of entries and the melodic shapes required of a subject. This discussion takes up the question of what form this fugal *elaboratio* might take, a query that benefits from a brief survey of some precursors to the Baroque. It then does the same for the somewhat independent pedagogical lineage of strict canon by tracing the nature of canonic *elaboratio* through the seventeenth and eighteenth centuries.

In general, we can distinguish between two parallel and complementary strands of imitative pedagogy running concurrently during the sixteenth through eighteenth centuries, modified to suit the changing genres and musical languages but not essentially different in one time from another. These consist of a number of commonplace patterns for the imitation itself (e.g., subject types, imitation schemes, entry orders, intervallic patterns, etc.) and a set of techniques for improvising accompaniment in those voices not participating in the imitation at a given time. The following section examines just a few selected treatises, beginning with some precursors from the sixteenth and early seventeenth centuries and spanning into the eighteenth, in order to sketch a pedagogical lineage that historically situates the pedagogies of imitative improvisation in the later German Baroque. It seeks a more precise answer to the question of what constituted the *elaboratio* patterns that were relevant to imitative improvisation.

To be clear, the present discussion deals with just two particular strands of fugal technique that bear directly on fugue *as improvised*, and not with the entire

history of fugal pedagogy during the sixteenth through eighteenth centuries. Beginning early in the seventeenth century, one could also trace a steadily divergent pedagogical path that views the fugue increasingly holistically, soft-pedaling its improvisational aspects as well as genres such as the *fantasia* in favor of a concern for the structure and layout—the *dispositio*—of entire fugues.[9] Several of the eighteenth-century fugue treatises, while valuable in their own right, are not of much use to an improviser; these range from Marpurg's comprehensive theory of fugue, to Fux's compositional *manductio*, to Mattheson's discussion, which falls somewhere in the middle. In fact, studies of "the fugue" as a rhetorical (and not necessarily improvisational) work have continued through our own time.[10]

Precursors to the *Partimento* Fugue: The Imitate-and-Harmonize Method

As mentioned above, the notational uniqueness of *partimento* fugues tends to misrepresent them as far more conceptually distinct from earlier imitative pedagogies than they actually are. In their simplest form (as in, for example, the *Precepts and Principles* of J. S. Bach), they adopt an imitate-and-harmonize method, whereby successive entries of subject and answer are harmonized by the voices not participating in the thematic material. When the entries occur in registrally descending order, as is ubiquitous in the Bach and very common elsewhere, each new entry replaces the previous one as the newly functioning bass voice, and figures prescribe an upper-voice realization; in cases where an entry occurs in an upper voice, a bass and figures are intended as a guide to the harmonization (or accompaniment) of the thematic voice. A crucial fact about the *partimento* fugue, however, is that—

regardless of entry order—it is not conceived as a simultaneous unfolding of four polyphonically independent voices, but rather as a series of entries along with a set of instructions for accompanying them. This imitate-and-harmonize procedure neither required nor began with figured bass and the *partimento* tradition (although it was certainly rendered much easier to perform by thoroughbass notation). Indeed, improvisational treatises as early as the mid-sixteenth century dealt with four-voice imitation in a similar way. Of course, neither the sophistication of the tonal system nor the advent of systematized figures were present then, and even the nature of sonority was different, but the methodological apparatuses for improvised imitation in the sixteenth through eighteenth centuries were not essentially different.

Santa Maria's *Arte de Tañer Fantasia* (1565)

Consisting of two books (of 26 and 53 chapters), this treatise deals almost exclusively with the art of improvisation, and specifically with the *fantasia*—a genre that, as several scholars have discussed, was not freely improvised, but rather newly generated based upon pre-learned rules and practices.[11] Santa Maria espouses the same process of learning by imitation and transposition advocated by most other improvisational writers of the sixteenth through eighteenth centuries:

> In order for beginners to progress in the fantasy, they must practice repeatedly with the subjects they know, so that through usage art is made a habit, and thereby they will easily play other subjects. It is also a very useful thing to transpose (*mudar*) the same subject to all the pitch signs on which it can be formed, but with the warnings that wherever it is transposed it must retain the same melodic line.[12]

Santa Maria refers here to imitative structures in two voices, not simply to the single-voice melodic shapes upon which they are constructed. After his exposition of the

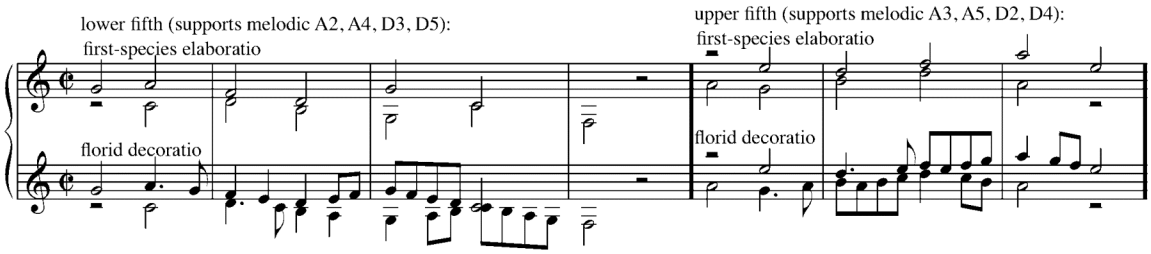
basics, he provides an extremely thorough instruction of the three skills that he considers vital to the improvisation of *fantasias*: the harmonization in four voices of given melodic shapes, the construction of an imitative duo, and the pairing together of two such duos by means of cadential links.

Santa Maria's second book delves deeply into classifying sonorities by their outer-voice interval and applying these to the harmonization of particular melodic patterns. The relevance of a lengthy harmonization method to the improvisation of imitative pieces may not be entirely obvious, unless one acknowledges that everything about the *fantasia* except the imitation itself—that is, what each voice does while not participating in an imitative duo—is generated by means of an ability to accompany (or harmonize) fluently in any number of voices up to four. The first thirty-one chapters are essentially a pedagogy of four-voice harmonization—what to add to a soprano that ascends or descends sequentially by step, by third, by fourth, and so on through octaves, and how to deal with sopranos that move in whole notes versus half notes versus quarter notes. There are no chord roots here and no figures beyond soprano-bass intervals, although the sonorities vary among 5/3 and 6/3 variants for each outer-voice skeleton. Later (in chapter 34), Santa Maria deals with playing in three voices, and includes several rhythmic configurations, such as a quarter-note accompaniment in alto and bass for a soprano moving in half notes; the goal is to cultivate flexibility on the part of the keyboardist in terms of which notes to harmonize, with which intervals, and in which rhythmic values.[13] The ability to harmonize any conceivable melodic pattern—and, by extension, any potential

imitative subject (or *passo*)—is, to Santa Maria, an absolutely fundamental prerequisite to the improvisation of four-part fantasias.

The next skill that one needs is to form two-voice imitations at the fourth, fifth, and octave, where each imitative scheme (i.e., interval of imitation and time delay) is suited to particular melodic intervals. For example, imitation (i.e., canon) at the lower fifth supports a first-species skeleton of rising seconds and fourths, and falling thirds and fifths, but rejects rising thirds and fifths, and falling seconds and fourths; precisely the opposite is true for imitation at the upper fifth. The following graphic, which is not from Santa Maria, demonstrates the ease of constructing a basic canon from melodic intervals and then embellishing it:

Figure 4.1. Demonstration of Canon at the Lower and Upper Fifth


lower fifth (supports melodic A2, A4, D3, D5):
first-species elaboratio
florid decoratio
upper fifth (supports melodic A3, A5, D2, D4):
first-species elaboratio
florid decoratio

The feedback loop that exists between melodic intervals, imitative intervals, and time between entries is something that improvisers could avoid in the moment of performance by memorizing a number of pre-learned contrapuntal patterns.

Noting the prevalence of alternating thirds and steps in opposite directions, and of fourths and thirds in opposite directions, William Porter attributes the frequent usage of these sequential patterns to the thirds and sixths that result in two-part counterpoint, and to the relative ease of internalizing these patterns at the keyboard:

> What is clear, however, is the way in which a pattern of alternating intervals in one voice, imitated closely at the fourth or fifth in another voice, produces ascending or descending sequential patterns that can be easily grasped by hand and easily memorized as a simple structure of interval repetition, thus forming a basis for improvised keyboard polyphony.[14]

He demonstrates that Santa Maria's subjects consist mostly of stepwise ascents with descending thirds, or the inverse, or occasionally consecutive thirds, at either the quarter-note or the half-note level. These structural intervals are present even when a lower-level melodic motion seems to contradict them; this middleground imitation, so to speak, is what allows the improviser to keep track of a contrapuntal structure in real time. The pertinent image is one in which the local details, or *decoratio*, of the imitation are being pulled along inexorably by the controlling first-species *elaboratio*. Thus, the improviser relies upon a learned overarching pattern to govern the more local melodic details, which can be seen as an embellishment of—and not a departure from—that familiar pattern.

The following brief example demonstrates this hierarchical principle. The top staff shows a first-species *elaboratio* for canon at the upper fifth, in which I accordingly employ only the unison, rising third, falling second, and falling fourth as melodic intervals. This pattern, which consists mainly of vertical thirds and sixths, would be easy to memorize.

Figure 4.2. Demonstration of Primary vs. Embellishing Melodic Intervals

The bottom staff applies diminution to the pattern in the form of passing tones and consonant skips. This *decoratio* seems to introduce melodic intervals of the rising step and the falling third, which do not work in canon at the upper fifth; however, these intervals are only apparent, for they are subordinate to the governing intervals of the *elaboratio* skeleton on the top staff. Such a hierarchical interaction is absolutely crucial to the incorporation of variety into canonic imitation, for an improviser is afforded a wide variety of melodic intervals and rhythmic patterns to add to a canon, without having to worry that these might result in an unsuccessful imitation at the fifth; it is an elegant example of freedom within restraints, the restraints in this case consisting of a pre-navigated imitative route.

Four-voice imitation ensures when two of these duos are paired[15]—usually soprano-alto and tenor-bass, but other pairings are possible if imitation is at the octave and the third voice enters between the existing two (such as a TSAB entry order). Santa Maria's imitate-and-accompany approach is especially apparent here:

> A universal and necessary rule that must not be violated…is that whichever of the four voices has stated the subject upon which one is playing must then serve the other voice or voices as a harmonic accompaniment, at least until two or three voices have joined in….[W]hen the two lower or the two upper voices conclude the duo entirely…then one or both voices of this duo must provide a harmonic accompaniment to the voice of the other duo that first entered…at least until the following or fourth voice shall have entered.[16]

Two principles are apparent here: First, each individual voice shifts back and forth between two distinct roles, a primary one as an imitative participant and a secondary one as a harmonic accompaniment. Second, the creation of a four-voiced texture is as much (or perhaps even more) about extemporizing a suitable harmonic accompaniment as it is about weaving polyphonic lines together; the latter is done at

first, and relies on a memorized imitative gambit, while the former—a much more manageable task in real time—is accomplished extemporaneously by means of the strategies set forth in the harmonization method (chs. 1-33) of Book Two. In this regard, Peter Schubert insightfully links cantus-firmus technique to imitative improvisation: Given a *passo* in whole notes, a countersubject is improvised over it in florid counterpoint and the resultant duo becomes a *soggetto* in its own right, to be further embellished by the addition of a third voice while the second pair of voices play it. This florid improvisation over the *passo*, a fixed tune itself, is a skill cultivated by the improvisation over various cantus firmus patterns. "It is easy," he says, "to see how training in Cantus Firmus improvisation is relevant to imitative writing."[17] While Miguel Roig-Francoli discusses the relevance playing with consonances to the improvisation of fantasias, he sees it as juxtaposed with imitative techniques, not as an element of the same essential technique.[18] Noting that these chordal sections are normally used to close a piece or a major section, he views the more vertically oriented technique as something that is used in some places, but not in others. I differ with this view, preferring instead to conceive of an imitate-and-harmonize method in which harmonic accompaniment is a generating principle employed simultaneously with imitative schemes. Particularly in textures that consist of an imitative duo plus two additional voices, both techniques are needed to explain the improvisational plausibility of the passage.

Chapter 52, at the end of the second book, reveals Santa Maria's instructions for the beginning player:

> Let him also extract from compositions any of the voices that he wishes, whether treble, alto, tenor, or bass, and play it as a treble with chords of four voices, three of which he extemporizes, utilizing for this purpose the ten ways of ascending and descending in chords, mingling some types with others to achieve that variety of consonances by which, as we have said, music is so greatly elevated and beautified….When he has then achieved some proficiency in playing these aforementioned voices in the treble, let him likewise endeavor to play them in the alto, in the tenor, and in the bass.[19]

With this instruction, Santa Maria's lengthy exposition of sonorities and harmonization procedures is made acutely relevant to imitative improvisation: A player must be able to extemporize a correct and beautiful three-voice addition to an imitative subject occurring in any of the four voices of the texture. The carryover of such a procedure to the *partimento* fugue of the Baroque is almost obvious; there, the figured bass represents what one adds to a subject (either the supplementation of figures to a bass subject, or the harmonization of a subject elsewhere in the contrapuntal texture). Thus, we must regard Santa Maria's pedagogy of harmonization as one with his discussion of the improvised *fantasia*. Once a keyboardist has learned how to imitate one voice in another, how to reach cadences, and how to balance the entry of additional voices with the placement of cadences, the rest of the musical flesh of a *fantasia* is achieved through the addition of a number of non-imitative accompanying voices.[20]

Indeed, one can easily imagine the application of this strategy toward the improvisation of *fantasias* such as the ones provided by Santa Maria. One of these, from the first book of his treatise, is shown below:

Figure 4.3. A Sample *Fantasia* by Santa Maria

Considering what Santa Maria actually teaches in his treatise, it is easy to detect the shift in generating principles as one moves through the *fantasia*—from imitative structures, to "harmonize" or "accompany" procedures, to four-voice chordal patterns for cadences. Importantly, none of these involves the extemporization of four polyphonically independent voices at once. The first imitation, consisting of ascending thirds at the level of the measure, is introduced in tenor and imitated at the lower fourth in bass (mm. 1-4); the soprano begins the second duo at the second part of the cadence to A (the 7-6 suspension over B-flat in m. 6), which is then evaded. The tenor and bass continue underneath the soprano-alto duet, and are generated by means of a harmonization procedure; given the fixed two-part counterpoint in the upper voices, the bass simply adds a part that provides

consonant support, and the tenor fills in sonorities as necessary. In fact, the music seems to lose momentum in mm. 7-8, with the repeated bass F over the bar line; it stands out to the ear that this voice was generated in service of the more rigid—and more interesting—imitative structure in the two upper voices. After the alto reaches its D on the downbeat of m. 9, the imitative obligations of the first pair are completed and the texture shifts noticeably to a four-part homophonic one, supported by a bass ascent to the cadence on A at m. 12.

The same procedure takes place for the second *passo*, introduced in the bass after the cadence in m. 12 and imitated in the tenor at the upper fifth. This displays descending steps and rising thirds at the level of the measure—the middleground imitative scheme discussed by Porter. The upper voices remain present briefly, simply consonant accompaniment to the primary imitation in the bass and tenor. This time, the soprano-alto duet enters without a cadence (mm. 16-17), culminating their reproduction of the bass-tenor duet on the downbeat of m. 20. Again, the two lower voices simply add non-imitative harmonic accompaniment underneath in mm. 16-20; this gives way to a four-part chordal texture with no imitation at m. 20, which continues through the end of the piece—evading a cadence on F at m. 25 and reaching a long-prepared final cadence on D at the end. This cadence is reached via a scalewise soprano descent (mm. 29-32), accompanied harmonically by a sequential bass pattern—exactly the sort of pattern taught by Santa Maria in the early part of his second book.

A *dispositio* such as the one below represents the plan that an improviser might predetermine for a piece such as this; it includes the introduction of each of the two *passos* in each of the two duets and the location of cadences.

Figure 4.4. *Dispositio* for the Opening of a *Fantasia*

Passo 1	**Homophonic Link**	**Passo 2**	**Ending**
T/B duo S/A duo (enter on susp.) To cadence on A (evaded)	cadence on A	B/T duo A/S duo (no cadence)	Tutti to cadences on F (evaded) and D

Once the two simple imitative schemes have been decided upon, the real-time allocation of attention places these imitative cells in the foreground, relying upon physically familiar, well practiced patterns to add to them; in places where no imitation is taking place, the player's focus shifts toward the attainment of a cadence, again via standard progressions of the types taught by Santa Maria. Thus, it is neither an exaggeration nor a corruption of imitative improvisation to say that accompaniment technique remains at the forefront of imitative improvisation; indeed, for Santa Maria just as for *partimento* fugues, it is the very skill that renders imitative polyphony plausible in real time.

Adriano Banchieri also discusses the harmonic accompaniment of pre-formed imitative structures in his *L'Organo Suonarino* of a half-century later.[21] In Book V of op. 25 (1620), provides a limited harmonization method for adding one, two, and three voices above an unfigured bass part. Banchieri's harmonization is severely impoverished by his insistence upon constant perfect (5/3) triads, and by its limitation to techniques for adding upper voices to a bass line. Nonetheless, the method still comes in handy when a new imitative entry occurs in the lowest voice. The imitate-and-accompany technique also plays a role in Francisco de Montaños's 1592

discussion of paired duos in four-part writing: "And when there have to be four voices, let the other two voices enter at their time, an octave below, *accompanying them with good intervals* as one will be in the examples for four voices…".[22] The specific indication that the second pair of voices ought to occur an octave below suggests, as does Santa Maria, the hegemony of entry orders that are high-to-low and symmetrical with respect to each register (i.e., SATB and ASBT). Since SATB is overwhelmingly the most common entry-order scheme, one can treat each entry as the new functional bass note and harmonize it with however many upper voices are present in the texture. Hence, the ability to add either one, two, or three voices above the bass is an important skill for it provides a way of adding voices above entries in the alto, the tenor, and the bass, respectively (assuming an SATB entry order).

Importantly, though, the vertically-oriented, accompanimental thinking discussed here intersects with a complementary—and, indeed, equally important—mode of learning imitative gambits, which is less about harmonization and accompaniment, and more about the framework of imitative polyphony itself. Model pieces serve as a storehouse from which to extract commonplace patterns, such as types of subjects and the entry order(s) that they suggest, skeletal contrapuntal patterns between the two voices of an imitative duo, and so on. The imitative commonplaces, discussed in more detail below, provide a learnable set of *elaboratio* patterns for imitative pieces, and the techniques of harmonization (or accompaniment) serve as a means by which to maintain a full texture even while the imitation occurs in just one or two voices.

Imitative Commonplaces

Aside from the imitate-and-harmonize technique, an equally important pedagogical trend concerns the construction of the imitative structures themselves, which can be learned as generic voice-leading frameworks and then recalled during improvisation to allow this seemingly complex task to rely upon memorized patterns. As before, this benefits from a brief contextualization within earlier pedagogies. The figure below reproduces an imitative commonplace offered by Montaños, which shows a four-part beginning that employs a single subject. The entry order below is typical: For the beginnings containing just one subject, the voice pairings are almost always soprano-alto and tenor-bass, with modal final and fifth each represented by one member of each pair.[23]

Figure 4.5. An Imitative Commonplace of Montaños[24]

The opening in Figure 4.5 employs the same type of hierarchical thinking that was discussed above with respect to Santa Maria; a generic, imitative commonplace governs the first-species counterpoint at the half-note level, which is then embellished into a more specific musical surface. This one uses a subject constructed of downbeat-to-downbeat intervals of unison, unison, rising third, and falling second, all

of which work in canon at the upper fifth; the bass-tenor duet can thus be constructed very simply, and learned as a first-species pattern in half notes, to be applied to imitative improvisations. The B that ends the tenor subject (m. 6) supports the alto entry on D above, which shifts the imitative focus to the two upper voices; they simply repeat a portion of the same duet that had sounded in bass and tenor. Meanwhile, the bass and tenor are added as consonant accompaniment. It is important to note precisely *how* this is plausible in the real-time environment of improvisation, namely by the following three steps: The improviser recalls an imitative structure from memory, to which passing tones can easily be added in real time, thereby generating the first six measures. This same structure is recalled again an octave higher, and the same simple diminutions applied to it, in the upper voices of mm. 6-10. The pre-formed imitation in the upper voices are accompanied by consonant sonorities, derived from a well-cultivated technique of accompaniment (as taught by Santa Maria especially, and to a more limited extent by others).

The usage of short imitative passages as commonplaces to be modeled and absorbed continues past the Renaissance, for example, in an important collection of didactic pieces from the late seventeenth century. The *Orgelschule Wegweiser* first appeared in 1668, but was expanded in its second (1689) and third (1692) editions, and then republished up through the sixth edition in 1753. The improvisational essence of the treatise consists, however, in the seventy-one *Orgelstücke* that appear in every edition. These musical models, whose authorship is uncertain, include eight

pieces—a Praeambulum and seven versets—for each of the eight church keys, as well as a Tastata with *Variationsfuge*, a Toccata, and a Toccatina.[25]

Similarly to the Montaños commonplaces of a century earlier, and also to Banchieri's model pieces of a half-century earlier, the fugal versets of the *Wegweiser* demonstrate a number of typical imitative strategies that are meant to be learned, copied, and applied by the reader. The intended pedagogical usage of these commonplaces, whether implicit or explicit in each treatise, is as patterns to be learned and used subsequently in composition and improvisation. In them, a keen student can observe the correlation among the entry order of the four voices, the modal degree on which each begins, and the nature of the imitative subject itself. Thus, there is also a deductive element to collections such as these, since a limited number of categories emerge—indeed, a very limited number when one considers only the imitation schemes that are common. A survey of the patterns presented in these three sources reveals a relatively small number of common entry schemes (such as SATB 5/1/5/1, which has entries from top to bottom on the modal fifth, then final, then fifth, then final), as well as the particular melodic trajectories of the subject that support each scheme.[26]

The vast majority of these commonplaces feature the three registrally contiguous entry orders SATB 1/5/1/5, SATB 5/1/5/1, and BTAS 1/5/1/5, which appear below along with the melodic trajectories possible for subjects and second entries in each of the three schemes:

Figure 4.6. Common Entry-Order Schemes for Four-Voice Imitation

SATB 1/5/1/5	SATB 5/1/5/1	BTAS 1/5/1/5
1 → 5	5 → 3	5
5	1	1 → 1
1 → 7	5 → 5	5
5	1	1 → 3
1 → 3	5 → 1	5
5	1	1 → 5
		5
		1 → 7

As can be seen, these are all are paired as SA/TB duets, and they are symmetric (i.e., where ST and AB match with respect to modal degree). In some cases, the imitative entry schemes shown here relate to one another in ways not explicitly shown on the chart. For instance, of the four melodic patterns that support a BTAS 1/5/1/5 scheme, three of them can also be construed as SATB 1/5/1/5 patterns by inverting the two parts; the only one that does not work in this way, of course, is the 1 → 1 subject with 5 entering above, since the fifth inverts to a fourth. These two entry schemes are related to one another by invertible counterpoint. So, despite the seemingly large number of entry schemes, there actually are not very many unique patterns.

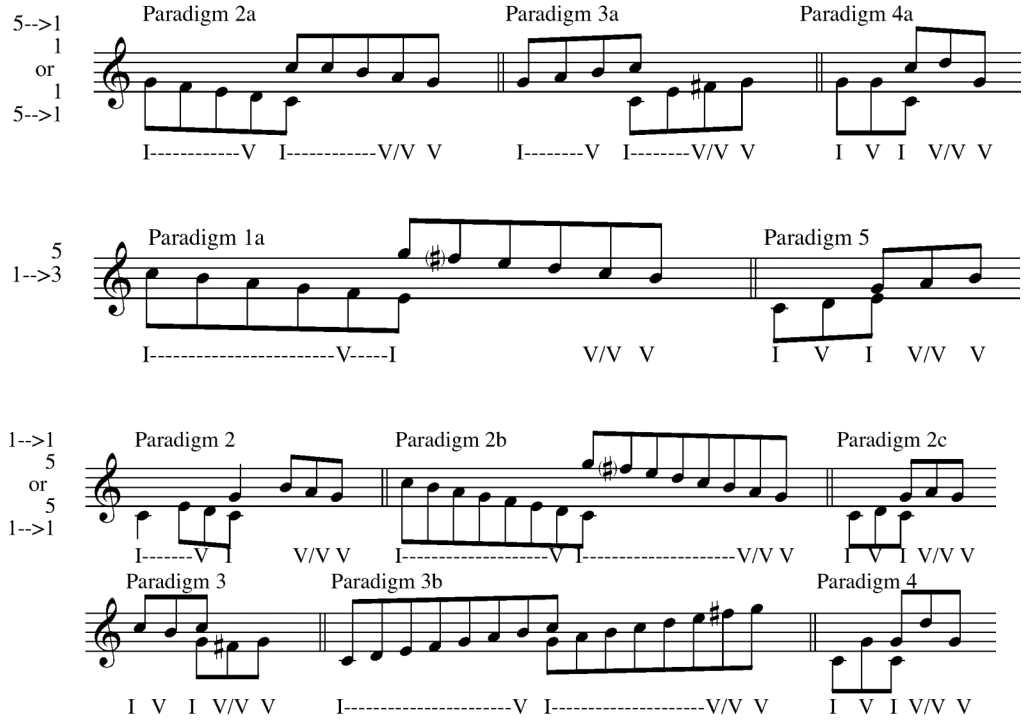
Of what use would this deductive taxonomy be to an improviser wishing to assimilate these commonplaces into a working memory for fugal improvisation? From an improvisational standpoint, it is hugely important to learn fugal patterns classified by entry order, since this is the primary aspect of a fugal exposition that can be learned pre-improvisationally, in the abstract, and in association with a particular melodic subject type, and then used to guide the keyboardist through the entry of four voices. Indeed, the order of entries and the melodic shape of the subject are what

make the imitate-and-harmonize method useful in the first place, particularly for improvised fugues that are not based upon *partimento* shorthands. As we have seen, the imitate-and-harmonize method provides strategies for making extremely local, moment-to-moment choices as to the accompaniment of imitative voices. The commonplaces, on the other hand, offer longer-range paths through an entire set of imitative entries in four voices—the order in which voices should enter, the modal degree upon which they should enter, and the melodic goal of the opening subject (i.e., where it is when the second voice enters). Of course, these do not provide specific guidance related to the timing or intervallic context of the third entry (i.e., the start of the second duet); this much is left to the performer's ability to create a link out of non-obligatory (i.e., non-thematic) material that will support the third entry; such a technique is explored at length by Santa Maria and implicitly suggested by the models of Montaños and the *Wegweiser*.

From the sixteenth-century *fantasia* to the eighteenth-century fugue, the relationship between the two voices of a paired duo—typically one on the modal final and the other on the modal fifth—becomes that between the fugal subject and answer. The eventual tonal contexts of the above entry schemes are insightfully illuminated by the subject-answer paradigms, voice-leading matrices, and exposition patterns that William Renwick classifies in his Schenkerian consideration of fugue.[27] His subject-answer paradigms are based upon more specific linear motions across the entire subject and entire answer, rather than simply on the beginning and end as the ones in Figure 4.6 are, and they also include Roman numerals to show the tonal derivation of

each pattern of imitative counterpoint. As a result, one of the subject-answer connections of Figure 4.6 could be a more general representative of more than just one of Renwick's subject-answer paradigms. For instance, Renwick's paradigms 2a, 3a, and 4a all feature the same overall subject trajectory (register aside) and seam between subject and answer, just with different specific melodic motions in the subject; likewise, his paradigms 1a and 5 are melodic variants on the same connection, as are paradigms 2, 2b, 2c, 3, 3b, and 4.

Figure 4.7. Renwick's Subject-Answer Paradigms



The additional specificity of his model is important to his goal of relating the linear progressions and voice-leading strands of a comprehensive voice-leading complex to the melodic and tonal design of subjects. For an improviser, a more general set of criteria for patterning might be more helpful, since it allows for a larger number of

melodic patterns to be seen as instances of the same set of imitative potentials (i.e., entry order).

What is similar between the fugal schemes above and the patterns discussed by Renwick, and what aspects of each are unique? Renwick's schemes invariably come with Roman numerals and voice-leading complexes, representing an intersection between Schenkerian-defined tonality and imitative technique. Moreover, entry order plays a secondary role for Renwick; he provides a number of specific three- and four-voice exposition patterns, but his invocation of invertible counterpoint in his voice-leading complexes means that the tonal expression of voice leading trumps the specific register of various entries. The result of his tonally-based classification is a rich association between fugal technique, voice leading, and harmony. Crucially, though, if we consider the subject-answer and fugal-exposition patterns of Renwick aside from their tonal meaning, and purely from the standpoint of the melodic patterns and four-voice entry schemes that characterize their imitative design, we reveal that the imitative patterns of the eighteenth century were not themselves all that different from those of the previous centuries; rather, they were largely the same, and were flexible enough to accommodate the additional specificity of voice leading and harmonic progression in the eighteenth century that allowed them to be seen, quite insightfully by Renwick, as expressions of essential tonal paradigms.

A different format for imitative entry schemes, such as that in Figure 4.6, is more directly suited to the assimilation of improvisationally relevant patterns and

strategies. These layouts interact in a crucial way with the harmonization technique that has formed the cornerstone of the discussion so far. The registrally contiguous entry orders SATB and BTAS ensure that each subsequent entry is either a new bass voice or a new melodic voice, rendering the act of accompanying a much simpler matter than if the entry occurs in the middle of an existing texture. Below are two sample improvised fugal expositions, each based upon one of the most common entry-order schemes described above. Improvisationally, the *elaboratio* consists of a plan for exactly where on the keyboard each voice will enter, for the scale-degree trajectory that each voice must travel, and for the basic accompanimental role that already-sounding voices will play during subsequent entries. Before each exposition, a very basic, motivically agnostic *elaboratio* appears, transcribed directly from the imitative scheme. This is then rendered with a more specific melodic and rhythmic profile in the imitative subject and answer, as well as accompanied by means of basic principles. When the bass is the subject, the apparatus of the Rule of the Octave assists the determination of upper voices. When the subject appears in the soprano, the number of options available is certainly greater, so the improviser relies upon a technique of melody harmonization that involves the matching of the given soprano to one of countless voice-leading progressions learned in a generic *elaboratio* format. That is, the addition of one or more accompanying voices does not rely upon imitative techniques, but rather upon the same assortment of progressions that one would call upon to improvise preludes, or suite movements, for example; these

progressions are simply accessed via a different way, namely by their association to a given soprano part.

Figure 4.8. Sample Improvised Fugal Exposition (Scheme → *Elaboratio* → *Decoratio*)

SATB 5/1/5/1

5 → 3

1

Figure 4.9. Another Sample Improvised Fugal Exposition (Scheme → *Elaboratio* → *Decoratio*)

BTAS 1/5/1/5

5

1 → 1

Through these brief examples, one can see how improvisationally fruitful it is to memorize even just the few most common imitative schemes. Indeed, it is exactly these patterns that are taught—albeit as exemplars, rather than techniques or abstract formulas—in the tradition of the *partimento* fugue. If an improviser is ever to move past the assistance of that shorthand, though, patterns of the sort discussed presently must be committed to improvisational working memory.

Dietrich Buxtehude, *Gigue*, BuxWV 226

A Gigue by Buxtehude serves well as an illustration of the techniques necessary to the improvisation of fugal expositions; the first reprise is shown in Figure 4.10.

Figure 4.10. Buxtehude, BuxWV 226, *Gigue* (first reprise)

In broad strokes, the reprise employs an SATB 1/5/1/5 entry scheme—that is, a subject in soprano, answer in alto, subject in tenor, and answer in bass. The subject and answer fall into Renwick's Paradigm 8a, one of the dominant-seeking subjects answered by a tonic-seeking answer. Because the subject begins on tonic and reaches the dominant, and the answer does just the opposite, no additional linking material is needed to connect successive entries; they simply prepare each other. The bass entry

(mm. 5-6) is incomplete and leads to two more entries before the cadence—a near-complete answer in soprano and then an extended subject in bass that initiates a lengthy sequential passage culminating in the medial cadence in G major.

Upon playing this exposition, one notices immediately the extent to which it *feels* like a *partimento* fugue; this is due, in large part, to the entries taking place only in the outermost voices and to the sparseness of the accompanying parts, which sound as if they are just realizing a prescribed set of figures. In particular, the construction of the subject already suggests a circle-of-fifths progression beginning on the second beat (i.e., chordal roots A-D-G-C) and, when placed in the bass (as it is for almost every entry), it demands the 6/5-5/3 suspension figure that accompanies it. This is seen first in the soprano in m. 2, above the alto entry, and it continues to appear as a skeletal countersubject above every subsequent entry as well.

The pre-improvisational *dispositio* for an improvisation such as this one, shown in Figure 4.11, would include the SATB 1/5/1/5 entry scheme as well as a basic plan for the rest of the reprise. This includes the transition from the end of the incomplete bass answer back to a preparation for a final bass subject (mm. 6-8), as well as the concluding extension of the final bass subject (mm. 9-11).

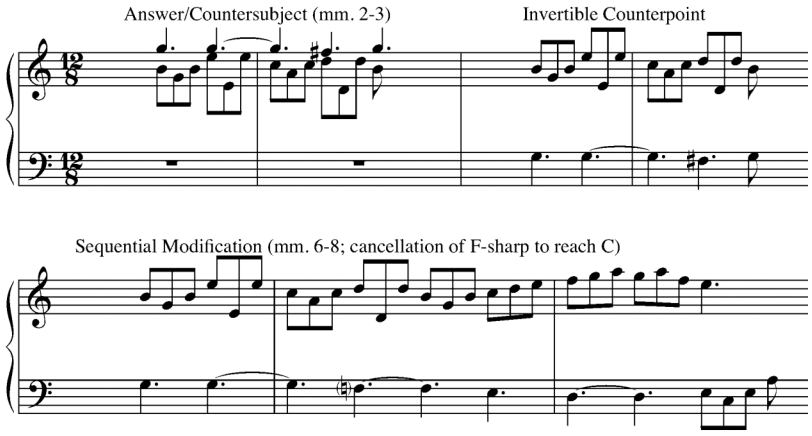
Figure 4.11. *Dispositio* for Buxtehude, BuxWV 226, *Gigue* (first reprise)

SATB 1/5/1/5 entry scheme	**Sequential Transition to Tonic**	**Final Statement**
S (sub.): 3 → 5	S (ans.): 7 → 1 (into cadential link)	
A (ans.): 7 → 1		
T (sub.): 3 → 5		
B (ans.): 7 → [truncated]		B (sub.): 3 → [sequential bass descent to cadence in G]

(Renwick, Paradigm 8a)

The transitional material at mm. 6-8 derives from the invertible counterpoint of the answer and countersubject in mm. 2-3, as shown in Figure 4.12; the simple suspension figure results in a 4/2-6/3 sequence when in the bass, versus a 6/5-5/3 sequence when in the upper voice.

Figure 4.12. Invertible Counterpoint in Countersubject and Sequential Material


Answer/Countersubject (mm. 2-3)
Invertible Counterpoint
Sequential Modification (mm. 6-8; cancellation of F-sharp to reach C)

In mm. 9-10, the same sequential counterpoint leads from the initial arrival on G in m. 9, through a sequential bass descent (including an unexpected cancellation of the F-sharp); once the sequence arrives upon a cadential progression in G at the end of m. 10, a conclusive arrival on G ends the reprise.

Whereas the realization of a figured *partimento* fugue requires fluency with the thoroughbass tradition in order to meet the specified contrapuntal and harmonic instructions, the improvisation of a fugue without the aid of *partimento* notation demands the absolute mastery of the techniques of *un*-figured bass.[28] Assuming the simplest entry scheme of SATB, the way to create an appropriate texture in the upper voices—in the right hand—indeed depends on the ability to treat the subject as a bass and determine an appropriate harmonization for it. The *régle de l'octave* comes to

mind with respect to the eighteenth century, with discussions by Campion, Mattheson, Kellner, Heinichen, and others, but bass-harmonization techniques based on solmization syllables and melodic bass intervals reach back into the seventeenth century (with treatises by Penna, for example), and less tonally syntactic methods (i.e., ones based purely on the addition of appropriate intervals without regard to progressional syntax) go back well into the Renaissance, as we have seen. So, although the *partimento* fugue is a useful tool for learning patterns, the performer's ability to supply his own entry schemes and accompaniment procedures is what frees him from the constraints of reading one of these pedagogical shorthands.

This ability, albeit without the specifics of figures, had been common parlance long before the advent of the *partimento* fugue, and—just as importantly—the knowledge of commonplace entry schemes was no less valuable to improvisers in the time of *partimento* fugues than it had been before. As discussed in Chapter 3 in regard to *partimenti* in general, the *partimento* fugue represents an exemplar-based pedagogical approach that uses models, in the form of shorthand notation, to teach imitative options. If improvisers are ever to move past having the *partimento* shorthand in front of them, then they need to locate patterns (however consciously or subconsciously) that could be abstracted, memorized, and applied to the task of improvising fugues without the shorthand. The preceding discussion has taken a step toward understanding the form that those patterns could have taken in improvisational memory and, by extension, speaks to the improvisational plausibility of fugues (or least fugal expositions) even outside the confines of the *partimento* tradition. In sum,

this consists of the same two complementary threads that form a continuous strand of fugal pedagogy from the sixteenth through eighteenth centuries: an imitate-and-harmonize (or at least imitate-and-accompany) technique that equips the improviser with efficient generating principles for voices beyond the imitative framework, and a set of memorizable commonplaces that encapsulate the typical imitative gambits themselves.

The Improvisation of Strict Canon

"Canon systems and other similar types of musical dependencies give us insight into the cognition of master musicians who accomplish complex musical tasks effortlessly in the real time of musical improvisation or listening."[29]

As evidenced by several contemporaneous writings, the aesthetic reception of strict canon became increasingly unfavorable in the eighteenth century.[30] A 1723 debate between Cantor Heinrich Bokemeier and Johann Mattheson outlines two competing views. The former sees canon as the innermost technical essence of music, the mastery of which brings with it a mastery of freer genera as well; Mattheson, on the other hand, sees strict canon as disproportionately artificial (i.e., not natural enough), placing it under the rubric of pedantry on his spectrum from nature, through art, to pedantic artifice.[31] Scheibe and Riepel also dismiss canon as *Augenmusik*, worthless rubbish with little or no artistic value.

However, the type of canon dismissed by these writers is the strict one in which one or more voices follow the original exactly, throughout the composition. Outside of any other musical context, it is actually quite easy to imagine why they would regard it as overly artificial and restrictive of the composer's creative freedom.

The more general technique of canon, however, remained indispensable as a generator of such devices as the fugal stretto—and, of course, the importance of canonic technique to virtually every imitative genre of the seventeenth century cannot be denied. Thus, it is also important to trace the pedagogical elements of this tradition and to come to grips with—as it turns out—the rather simple learning strategies available to one wishing to improvise canon. This is not to say that canon and fugue are non-overlapping—indeed, a three-voiced canonic imitation at the upper fifth and octave is not immediately distinguishable from a three-voiced fugue with real answer—but there is nonetheless a distinct pedagogical lineage of improvised canon. Whereas fugue was taught largely through general imitative schemes and imitate-and-harmonize procedures, canon was often taught more atomistically through intervallic patterns, and especially through sequential melodic cells.

We have already dealt somewhat with the principles of improvised canon, with respect to Santa Maria's treatment of the *fantasia* and his presentation of strict contrapuntal patterns for study and memorization. The most basic property of strict canon is that melodic (i.e., horizontal) intervals are essentially tantamount to harmonic (i.e., vertical) intervals—that is, knowing the time and pitch distance from the *dux* to the *comes* restricts the melodic intervals in a subject to those that will yield allowable vertical intervals. Morris formalizes first-species canon systems as conglomerates of essentially four interrelated variables: the canon system (e.g., canon at the upper fifth), the durational distance (in notes) from one voice to the next, the allowable vertical intervals, and the allowable horizontal intervals. In order

to improvise a canon in a given canon system, one must simply understand this interrelation; indeed, it is what generates *elaboratio* patterns for canons. For example, in canon at the upper fifth with a one-note time interval, the following melodic intervals are permissible: -8 (which makes a harmonic 12th), -6 (a harmonic 10th), -4 (an 8ve), -2 (a 6th), 1 (a 5th), 3 (a 3rd), and 5 (a unison). Concatenating these melodic intervals yields possibilities for constructing a suitable subject. One simply applies *decoratio* strategies in order to produce more motivically distinct canons, such as filling in thirds with passing tones or delaying a descending step with a suspension.

The point of this mode of thinking is that it equips the improviser with the ability to instantaneously discern which melodic patterns work in which canon systems, such as the melodic pattern <+3, -2> in canon at the upper fifth, and the pattern <+4, -2> at the upper second; in essence, Morris's method is just a more systematically complete presentation of the same techniques and formulas taught by writers of the sixteenth through eighteenth centuries. Thus, the improvisation of canon is not only learnable, but indeed extremely simple. In fact, Morris's intent is improvisational:

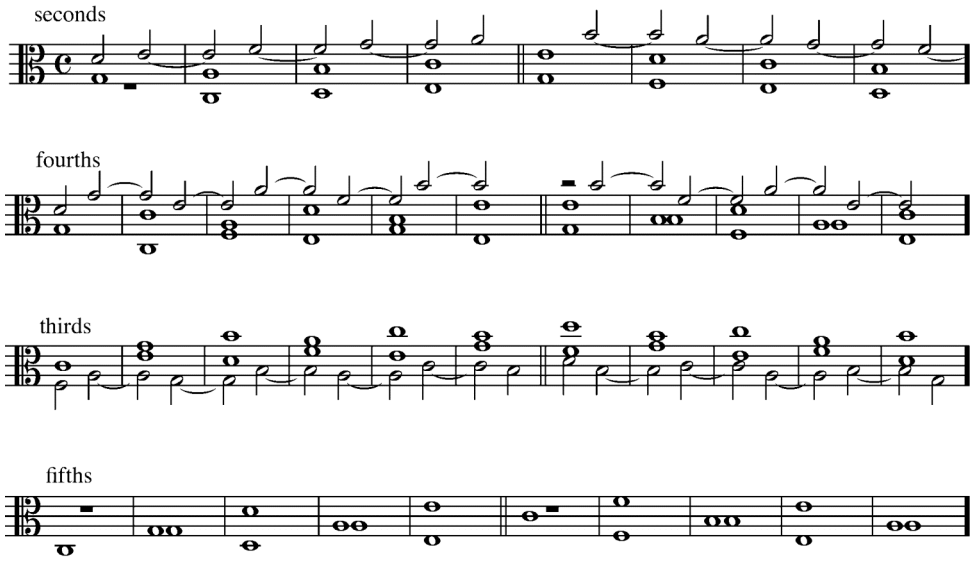
> In an important sense, we have been studying the relationship between melodic structure and polyphonic opportunity…. [C]anon systems and other similar types of musical dependencies give us insight into the cognition of master musicians who accomplish complex musical tasks effortlessly in the real time of musical improvisation or listening.[32]

Vincentio Lusitano's *Introduttione Facilissima*

The usage of sequential melodic patterns as the basis of constructing canon goes back at least as far as Vincentio Lusitano's *Introduttione facilissima*, first

published in 1553. Lusitano teaches improvised canon in two ways—as a musical texture unto itself, and as something to be added above a cantus firmus. In each case, he offers a series of patterns for memorization, to be applied to the creation of a canon in two, three, or four voices. The first group of patterns includes a sequential cantus firmus (i.e., either steps, thirds, fourths, or fifths sequenced up and down by step) as well as options for following it at either the upper fifth or the lower fifth. Figure 4.13 shows these skeletal canons:[33]

Figure 4.13. Lusitano's Sequential Canons



Taking the middle voice of each example as the leading one, either the upper or the lower voice (i.e., at either the upper fifth or the lower fifth) is meant to sound in canon with it—not all three voices simultaneously. Of interest here, beyond simply the ease of combining sequential melodies in canon, is the rhythmic displacement demonstrated in one of the two possibilities for steps, thirds, and fourths. For thirds, the lower voice delays by half a measure each time, yielding 5-6 and 5-3 intervallic

successions that are as compatible with the *dux* as the aligned version in the upper voice. Likewise, the 5-6 and 6-5 motions created by the displaced upper voice of the "seconds" line and the two consonances per measure in the "fourths" line offer more rhythmically interesting canonic possibilities than the simpler aligned versions do.

The other type of canon structure discussed by Lusitano is more firmly rooted in the cantus-firmus compositional technique of the Renaissance, as it involves the construction of a two-, three-, or four-voice canon over an existing cantus firmus. In this case, though, the sequential cantus firmus does not participate in the canonic imitation, but is rather a foundation upon which to construct a canon with a different melodic structure. This appears in a separate section of the treatise, entitled *Regole Generali per far Fughe Sopra Il Canto Fermo a II. III. et IIII.* Lusitano provides the same four sequential melodies of Figure 4.13 as cantus-firmus foundations, but then lists under each one several canons (at the octave, fifth, or fourth) whose melodic material may or may not have anything to do with that of the cantus firmus.

Figures 4.14 and 4.15 show two three-part canons at the unison above sequential cantus firmus patterns. In 4.14, a stepwise cantus firmus supports three rhythmically offset instances of the sequential melodic pattern +4/-3; in 4.15, the cantus firmus is constructed of the +3/-2 pattern (and the reverse in descent), and supports three offset -4/+3/+3 voices. These are tight stretto canons at the unison, but Lusitano also includes canons at the fourth and fifth, all containing sequential melodic subjects built upon a cantus firmus that is itself sequential (but not necessarily in the same way as the canonic voices).

Figure 4.14. Three-Voice Stretto Canon Above a Stepwise Cantus Firmus

Figure 4.15. Another Three-Voice Stretto Canon Above a Sequential Cantus Firmus

Peter Schubert notes the wide applicability of this cantus-firmus-based canon pedagogy beyond simply those CFs that are themselves sequential. Indeed, any CF can be understood as a succession of segments that each resemble one of the sequential CFs shown by Lusitano, and in this modular way, the performer can draw from the set of memorized canon patterns that is relevant to each one. After all, given all of the melodic patterns shown, ascending and descending seconds through fifths cover just about any conceivable melodic interval that would occur in a CF. Schubert explains:

> The performer presumably is to memorize all of Lusitano's patterns, so that having decided that the consequent was to follow the guide at a fifth above after two minims, and seeing a given cantus firmus motion, knows which pattern to employ. Although it would require a good deal of effort to memorize all the possible patterns, the number of different solutions is actually not very large.[34]

Indeed, sequential imitations played a huge role in improvised vocal counterpoint during the Renaissance, in the tradition of *contrapunto a mente*, and they continued to do so in the seventeenth and eighteenth century in treatises by Chiodino (reproduced by Herbst), Sebastiani, Werckmeister, and Vogt.[35]

Canonic *Elaboratio* and *Decoratio*

In the *Arte de Musica Theorica y Pratica*, Francisco de Montaños begins with the typical prohibitions on melodic intervals in a given canon system (i.e., in canon at the upper fifth, one must avoid ascending seconds and fourths, and descending thirds and fifths; and vice versa for canon at the lower fifth), but he also reaches beyond this to explain a way of learning to improvise imitation in simple, one-to-one counterpoint before adding any diminution. In contrast to Lusitano, Montaños is not concerned with the presentation of canon for vocal improvisation; therefore, his models are presented as pre-formed counterpoint on staves, rather than as lists of instructions for singers. Montaños's formulation mirrors the hierarchical interaction of *elaboratio* and *decoratio* espoused in the present study:

> If upon beginning two voices follow one another well, the others may follow that imitation when composing for more voices, it will therefore be proper to give a rule on how one voice follows another at the fifth, which is the interval at which one generally imitates passages, above or below. *And because it is easier one ought to first write with only half notes and afterwards the same with diminutions, intermediate signs, and diverse figures.*[36]

Figure 4.16 reproduces two of Montaños's examples, one showing two first-species models for canon at the upper fifth, and one showing two at the lower fifth;

each model has two subsequent variations with simple diminutions added. Although the types of diminutions shown here are rather elementary—filling in thirds or fourths with passing tones, or making two quarter notes out of one half note by simply repeating it, for example—they serve an important purpose in rhythmically and melodically distinguishing the two canonic voices from one another and rendering the canon more salient to the ear. Through the variations, a voice-leading skeleton morphs into motivic imitation.

Figure 4.16. Montaños's Application of *Decoratio* to Skeletal Canons

The first-species skeletons above make use of sequential subjects of the same sort that Lusitano discusses; the first upper-fifth model uses alternating rising thirds and falling fourths, and the second model reverses this by alternating falling fourths with rising thirds. As a result, these canons support the entrance of a third voice not shown by Montaños; in both cases, a voice can enter a fourth below the principal (i.e., an octave below the second voice) in the third notated measure. Stretto structures such as this are especially well suited to sequential subjects, as has been noted by a number of scholars.[37]

Indeed, the progression from bare first-species skeletons to more florid canons is an elementary form of exactly the sort of mnemonic training exercise that Gregory Butler discusses, in which a bare contrapuntal reduction (i.e., *elaboratio* in the present study) is implanted into some locus of the memory as a *fantasia*, and then serves as an instantly (and subconsciously) accessible cue to a more fully fleshed-out *fuga* (i.e., *decoratio*).[38] Montaños is certainly not the only one to advocate this two-stage learning process for canonic patterns; as late as 1719, Moritz Vogt's *Conclave Thesauri magnae artis musicae* distinguishes the first-species *phantasia simplex* from the more florid *phantasia variata*, sampling the huge variety of surfaces that can be rendered from the same basic outline. Figure 4.17 shows one of Vogt's demonstrations of the two-stage process, and Figure 4.18 reproduces one of his later figures that explicitly labels them as "Phantasia" and "Fuga":[39]

Figure 4.17. Vogt's *Phantasia Simplex* and *Phantasia Variata*

Figure 4.18. *Phantasia* as *Elaboratio* and *Fuga* as *Decoratio*

Spiridione's *Pars Quarta* opens with a novel approach to the improvisation of canon. Akin to the approach taken for realizing bass patterns in the rest of his treatise (discussed in Chapter 2), his method is an *ars variandi* that involves a number of variation strategies on the same basic canon structure.[40] Spiridione's canonic *elaboratio* is a three-voice canon at the successive lower fifth (i.e., the lower fifth and lower ninth), based upon the first-species melodic pattern of rising fourth, falling third, falling third (+4/-3/-3) in half notes; this is shown in Figure 4.19.

Figure 4.19. Spiridione's Sequential Stretto Canon as an *Elaboratio* Skeleton

Initially, Spiridione adds only minimal *decoratio* to this skeleton, filling in the thirds with quarter-note passing tones and the fourths with double passing tones in eighth notes:

Figure 4.20. Sequential Canon with *Decoratio* Applied

The significance of patterns such as those in Figures 4.19 and 4.20 to the plausibility of improvised imitation is enormous, for they provide prefabricated—but still variable—paths through a dense imitative passage. Without them, one would perhaps wonder how it would be possible to train the memory to construct an imitative subject in real time that will work at the specified time and pitch intervals of the canon, and then to reproduce that subject (often transposed) in another voice while *simultaneously* continuing to create the subject in the first voice. This seems an extraordinary feat even in just two voices, and would invite several strategies: One would begin with points of imitation that were restricted to rhythms equal to the time interval between voices, thus yielding a first-species canon; in real time, one would learn to remembering finger patterns in one hand to be transferred to another. However, this difficult (and, for many, impractical) feat is only necessary if the improviser has not assimilated a set of ready-made canon structures. These complete imitative frameworks in two, three, or more voices pre-solve the improvisational challenge (as discussed in Chapter 1) of keeping track of imitative polyphony in real

time, for they can be applied without the need for any short-term memory of a subject constructed on the spot; the subject, after all, was constructed well in advance and committed to memory. Finally, since the ready-made structures (such as the one in Figure 4.19) are learned in a motivically flexible *elaboratio* format rather than as note-for-note musical surfaces, different surface ornamentation can be used in each case, so that the process of improvising imitation is still generative, and not simply reproductive.

Spiridione's next set of variations are not on the types of diminution applied to the canon in Figure 4.19, which would be rather pedantic and uninteresting, but rather on the canon itself. One variation uses the retrograde of the original subject (+3/+3/-4), which reverses the order of entries to BAS in canon at the successive upper fifth (Figure 4.21). Another one uses the retrograde inversion of the original subject (-3/-3/+4) in an ABS canon at the lower fifth and upper fourth (Figure 4.22). The third variation uses the inversion of the original subject (-4/+3/+3) in a BAS canon at the successive upper fifth (Figure 4.23).[41]

Figure 4.21. First Canonic Variation

Figure 4.22. Second Canonic Variation

Figure 4.23. Third Canonic Variation

This set of canonic variations modifies the direction and ordering of the same intervallic pattern—two thirds in one direction and a fourth in the opposite direction—which thereby effects modifications in the entry order and intervallic separation of the three voices as well.[42] The implications of this short demonstration are actually quite profound, since it makes clear that any canon built upon this particular sequential melodic subject is actually a member of a class of related canons, the other members of which can be derived by applying the twelve-tone operators to the subject itself.[43] Reversing the intervals of the subject reverses the entry order of the three voices, and so on. As Lamott notes, the effect of these "variations" is really just to create the semblance of a different canon while still relying upon the same contrapuntal skeleton as before; that is, the essential imitative skeleton remains unaltered even in the various countenances that it dons, in a testament to the efficacy of this particular memorized pattern. Such a procedure does not work on other subject types, even on other sequential subjects, so the pattern of two thirds and a fourth is a particularly ripe one for canonic manipulation. This suggests to the improviser that choosing a first-species canon framework that is itself sequential not only offers ample opportunity for stretto (as shown by Spiridione's example as well as by Lusitano, Werckmeister, and others), but also that it is

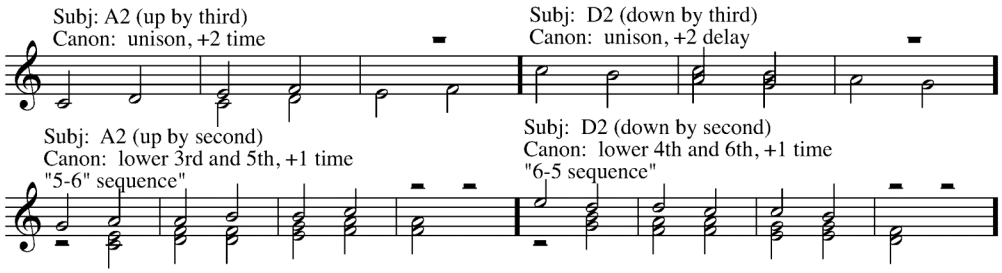
conducive to the processes of inversion that one might wish to call upon in fugal genres.[44]

Andreas Werckmeister's *Harmonologia Musica*

Written in 1702, Werckmeister's *Harmonologia Musica* was known to Dietrich Buxtehude at the end of his life; the improvisational core of the treatise is in the *Zugabe* on double counterpoint and canon (*fugis ligatis*).[45] Commentaries on Werckmeister have pointed out his neo-ancient view of strict contrapuntal procedures (e.g., double counterpoint, canon) as allegories—even manifestations—of the universal order of God and the cosmos.[46] Moreover, it has been remarked that Werckmeister's intent with the *Harmonologia*—beyond the destigmatization of contrapuntal theory through a grounding in a theory of triadic chord progressions—is to render complex procedures as simple models ready for autodidactic study by the reader.[47] This, as Oliver Wiener says, explicitly counters the obscurity of some of his contemporaries: "Werckmeister's critique, never rude, seems to foreshadow a kind of Enlightened skepticism towards hermetic secret-mongering."[48]

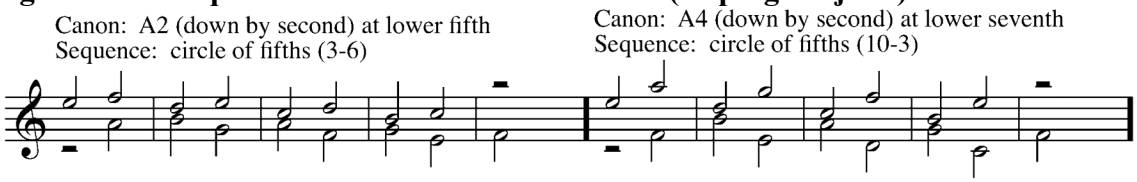
What Werckmeister does contribute, as explicated elegantly by Michael Dodds, are a number of basic *elaboratio* patterns for stretti that use these subjects.[49] Having adopted the pedagogical conceit of melodic lines that are themselves sequential, Werckmeister's first imitative treatment comes in the form of the most obvious (*einfaeltigste*) canonical patterns, shown below:[50]

Figure 4.24. Sequential Canons in Werckmeister (stepwise subjects)


Subj: A2 (up by third)
Canon: unison, +2 time
Subj: D2 (down by third)
Canon: unison, +2 delay
Subj: A2 (up by second)
Canon: lower 3rd and 5th, +1 time
"5-6" sequence"
Subj: D2 (down by second)
Canon: lower 4th and 6th, +1 time
"6-5 sequence"

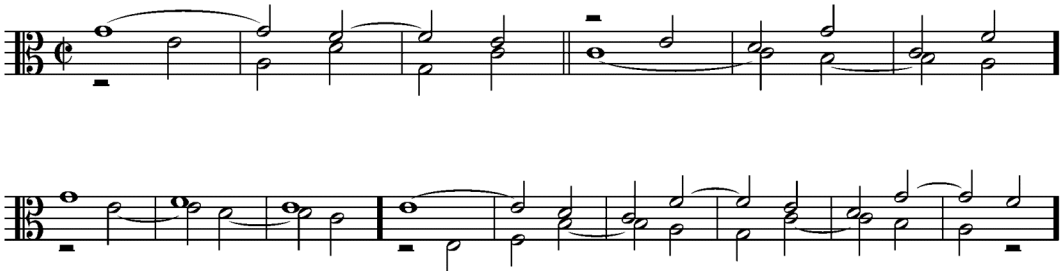
Of course, just as in Lusitano, sequential subjects constructed of alternating thirds and seconds, of alternating fourths and thirds, and of alternating fifths and fourths are also presented initially. Some are shown in Figure 4.25.

Figure 4.25. Sequential Canons in Werckmeister (leaping subjects)


Canon: A2 (down by second) at lower fifth
Sequence: circle of fifths (3-6)
Canon: A4 (down by second) at lower seventh
Sequence: circle of fifths (10-3)

Moritz Vogt would later expand this set of obvious sequential canons to include structures that did not simply land on consonances at every downbeat. Shown below is an example from his chapter entitled "De Phantasia, & inventionibus." It begins with two-voice structures that create suspensions out of a stepwise descent through the addition of a sequentially leaping voice. The last two structures show canons (one with simple descending steps, and the other with an elaboration of the -3/+4 sequential pattern) that build suspensions into the essential *phantasia simplex* of the canonic structure.[51]

Figure 4.26. Vogt's Sequential Canon Structures with Dissonances



Dodds points out that sequential imitation in a subject makes stretto much easier to manage, since subsequent voices neatly align with the ones already sounding (usually in tenths or thirds). For example, Werckmeister shows the four-voice stretto below:

Figure 4.27. Werckmeister's *Elaboratio* for a Sequential Stretto Canon

How is this stretto generated? Consider the bass and tenor voices first: A subject of ascending thirds sequenced up by step supports canon at the upper fifth at a time interval of one. (This also accounts for why the alto and soprano voices work together.) The trick behind superimposing two iterations of this canon—one in bass-tenor, the other in alto-soprano—is parallel thirds and tenths, which are guaranteed to work with a subject that repeats a sequence every two notes. This is one of many first-species contrapuntal structures that Werckmeister presents as frameworks—easily learnable, widely applicable, and ripe for embellishment into a virtually unlimited number of surface structures.

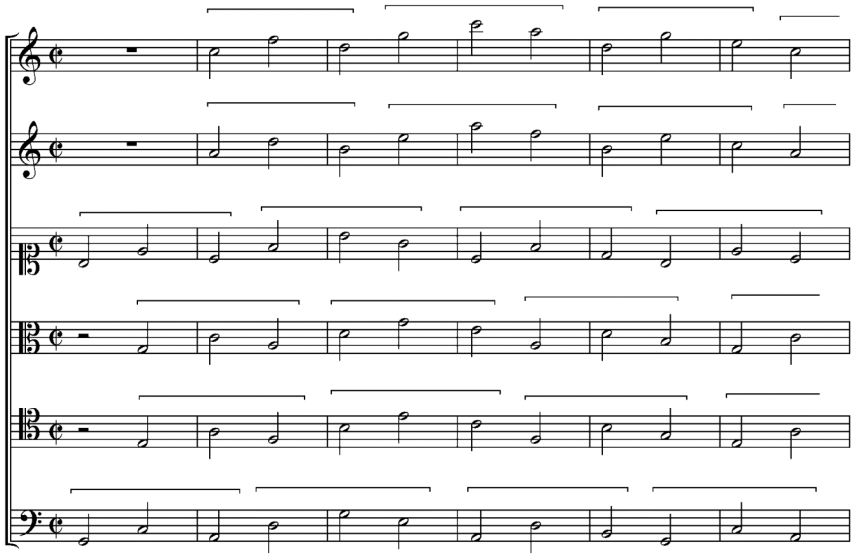
Like other authors on canonic improvisation, Werckmeister demonstrates the possibility of applying diminution strategies (i.e., *variiren*) to the first-species skeletons, such as filling in thirds with passing tones, subdividing fifths with thirds, and delaying descending seconds by means of suspensions. Often, he says, these techniques can be used to conceal the original shape of a canonical subject. A fascinating example of this procedure occurs in the sample six-part canon reproduced below:

Figure 4.28. Six-Part Canon using Parallel Thirds and Tenths, With *Decoratio*

On the surface, each voice in the canon seems to consist of three concatenated, but independent melodic figures, each separated from the others via rests and distinguished by its unique rhythmic and melodic shape. If this were the case, one would wonder which of Werckmeister's shorthands could serve as the generating principle to ensure that three different subjects would work in triple-counterpoint canon with one another in six voices. However, the matter is actually a

great deal simpler than this, for each of the three motivic fragments is a different *decoratio* option for the same sequential imitative subject (i.e., +4/-3). As Werckmeister goes on to describe, this melodic shape supports canon at a time interval of one at all of the following intervals: upper fourth, upper sixth, upper octave, lower third, and lower fifth, including the possibility for several of these to occur simultaneously. Seen in this light, the canon above reduces to the following unadorned *elaboratio*, in which brackets show the boundaries between <+4, -3> units:

Figure 4.29. *Elaboratio* of the Six-Part Canon in Figure 4.28



The six-voice canon reduces to three pairs of voices in parallel thirds (or tenths), each of which includes three iterations of the <+4, -3> melodic pattern. The choice of what pitch should begin each iteration is determined by the intervals formed between those voices about to re-enter and those already midway through a statement of <+4, -3>; the aim is to enter in parallel tenths with a voice that is already sounding in the texture. As Werckmeister describes, the role of diminution here is actually to

obscure the structural relatedness of these imitative subjects, thus yielding some *varietas* out of a single skeletal source.[52]

Canonic *Elaboratio* in Practice: A Sample Improvisation

The pedagogy of improvised sequential canons finds immediate practical application when one sets out to improvise. Beginning with a melodic incipit, the rising fourth, one considers the two sequential imitative subjects that contain it—one with the fourth sequenced up by step (e.g., CFDG), and the other with the fourth sequenced down by step (e.g., CFBE). Next, one recalls from memory some two-voiced imitative frameworks that use each of these, as well as a four-voiced stretto structure that makes use of parallel thirds and tenths.

Figure 4.30. Canonic *Elaboratio* Patterns Employing a +4/-3 Subject

Finally, one applies surface-level diminution to the frameworks in the form of a short motive, and combine these to create a phrase that begins simply and thickens texturally as it moves toward a cadence:

Figure 4.31. Sample Improvisation Employing a +4/-3 Subject

A single canonical subject is treated in a way that creates rhetorical interest, beginning with a thin, two-voice texture in ascent (mm. 1-3), changing direction to a descent (mm. 4-5), and then gaining density (mm. 5-6) in its drive toward a cadence (m. 10). The canon at m. 1 is at the lower fifth, in which primary melodic intervals <+4, -3> form verticals that result in a 5-6 canonic sequence. By sequencing the four-note motive (e.g., <A-C-A-D>) down by step rather than up by step beginning at m. 3, a new canon is formed in descent, still at the lower fifth but now with constant vertical tenths as part of a descending-fifths imitative sequence. At m. 5, the canon is expanded to four voices, which is made possible by the fact that both the *dux* and *comes* of the existing canon can accommodate parallel tenths and still produce acceptable verticals. Finally, at m. 9, the imitation gives way to a standard cadential figured-bass progression to close the phrase.

The pedagogical kernel that contains the secret to this sort of imitative improvisation resides in the pairing of particular melodic profiles with specific

imitative treatments, resulting in a marriage of contrapuntal potentials that can be learned during practice time and then instantaneously applied during improvisation.[53]

Conclusion

Even in spite of the changes to the tonal system and the stylistic changes that took place between the sixteenth and eighteenth centuries, the most basic tenets of fugal and canonic technique remained in tact. Throughout this time, all that one needed to improvise these structures was an ability to relate imitative entries to one another, and an ability to incorporate these entries into a musical texture—in essence, a set of imitative patterns and some techniques for accompanying them. Certainly, for as long as the complexities of canon and fugue existed, methods for learning to extemporize them existed right alongside them. It would seem more fruitful, then, to regard these techniques as eminently learnable—for they were entirely amenable to the hierarchical extraction of memorizable, widely applicable patterns. In fact, it is precisely these denser, more complex structures—canon, fugue, invertible counterpoint, and so on—that rely most heavily upon such a mode of instruction for their very plausibility as improvised. William Porter explains: "To identify them as essential to the improviser's art allows us to recognize improvisational practice in a wider variety of genres than has been customary until now."[54] And it allows us to understand improvisational *elaboratio* in the broadest, most all-encompassing sense possible, namely as something that incorporated memorized patterns appropriate to whichever improvisational task—imitative or not—the performer faced.

[1] Renwick 1995, 17.
[2] In addition to Ledbetter 1990, Renwick 1995, and Renwick 2001, for example, recent work by Gjerdingen (2007b), Sanguinetti (2007), and Serebrennikov (2009) has also brought the subject to the fore and elucidated its pedagogical methods and contributions.
[3] Renwick 1995, 5ff.
[4] Gingras 2008.
[5] Renwick 1995, 2-3.
[6] Mann 1958, 31.
[7] Serebrennikov 2009, 40.
[8] One obvious landmark here is the tonal answer, the first full discussion of which appears in Christoph Bernhard's *Tractatus compositionis augmentatus* (1650). However, modally complementary imitative entries were not new then, nor were tonal answers universal thereafter; see, for instance, the Canzonas and Canzonetti of Spiridione, which frequently imitate at the successive upper fifth (thereby outlining a ninth rather than an octave).
[9] For more discussion of this other pedagogical strand, see Mann 1958, 35ff.
[10] Two extremely different applications of rhetoric to the fugal work appear in Butler 1977 and Harrison 1990.
[11] See Butler 1974, the editors' introduction to Santa Maria 1991, and Porter 2000.
[12] Santa Maria 1991, 156 (from Book 1, Ch. 22).
[13] Roig-Francoli 1990 notes the parallel between Santa Maria's technique of playing in consonances and the later accompaniment technique of thoroughbass; in both cases, as he says, "a bass line is added to an existing treble line, thus creating an outer-voice structural duet; the two inner voices are added, taking into account the quality of the resulting vertical sonorities, which in turn are defined by the intervals counted from the bass upwards." (206). Indeed, this supports the view of a continuity between Renaissance and Baroque compositional technique by showing the extent to which Renaissance composers and theorists such as Santa Maria did take into consideration the vertical, harmonic component of imitative music.
[14] Porter 2003, 138.
[15] See Schubert 2002, 519-20 and 526-7, for a detailed and crystal-clear discussion of Santa Maria's paired-duos technique.
[16] Santa Maria 1991, 245 (from Book 2, Ch. 35).
[17] Schubert 2002, 522.
[18] Roig-Francoli 1990.
[19] Santa Maria 1991, 391-2 (Book II, Ch. 52).
[20] In some sense, Santa Maria's focus on fluency with harmonization is just a method of expediency to enable an improviser to continue through a *fantasia* rather than stopping to think about the weaving together of lines at every juncture. His is not the only method to make imitative improvisation plausible; Vincentino, in *L'antica musica ridotta alla moderna prattica*, advocates taking the line that had accompanied the theme, and making it the basis for a new set of imitations. This leapfrogging

effect is another way of reducing the cognitive load on the improviser and maintaining fluency through the improvisation. (See Mann 1958, 15-16.)

[21] The text was originally published in Venice in 1605 as op. 13, but was reprinted and substantially expanded in several subsequent printings (1611; 1620 as op.25; 1622 as op.43; 1627; and 1638). The various editions and printings of Banchieri's treatise are discussed at length in Marcase 1970.

[22] Urquhart 1969, 133 (emphasis added).

[23] When the entry order does not pair soprano-alto and tenor-bass, the imitation is almost always adjusted such that, once all voices have entered, the top-to-bottom starting pitches are still either 5-1-5-1 or 1-5-1-5 of the mode—just as they would have been in the case of a typical pairing of duos. To accomplish this, a ST opening duo typically employs imitation at the octave, for example, with subsequent alto and bass entries on the fifth.

[24] Urquhart 1969, 242.

[25] Walter 1964 discusses the possibility that either E. F. Schmidt or A. Gottron Philipp Jakob Baudrexel may have been the translators of the theoretical part and the composers of the *Orgelstücke*, but acknowledges the challenges to the authenticity of their authorship.

[26] This short list of common imitative schemes is highly representative, but is certainly not comprehensive. Many sources are not mentioned here, particularly Italian ones such as Vols. 1-2 of Bernardo Pasquini's *Opere per tastiera*, which include a large number of short *versetti* and other pieces from which commonplace imitative models could be extracted. Indeed, collections of pieces themselves can serve just as well as explicitly didactic sets such as those discussed here.

[27] Renwick 1995.

[28] Of course, not all *partimenti* include figures, but the *partimento* fugue does almost always include them; after all, the invocation of thoroughbass principles is central to their pedagogical conceit. Recently, Maxim Serebrennikov (2009) has classified these thoroughbass fugues into four categories, with almost all of his examples including figures: *encoded*, which show thematic entries on a single staff with figures (e.g., Handel); *partially encoded*, which provide complete outer voices and imply inner voices with figures (e.g., Speer); *realized*, which notate an entire texture as a solution, either with or without figures (e.g., Heinichen, J. S. Bach); and *improvised*, which are fugues that have all of the same characteristics as thoroughbass fugues, but are played without recourse to a shorthand.

[29] Morris 1995, 66.

[30] Of course, the aesthetic rejection of canon did not simply appear out of nowhere during the Baroque. See Mann 1958, p. 11ff., on the growing disfavor of strict canon compared with freer imitation, all the way back to the sixteenth century with Glarean, and even the fifteenth with the German Adam von Fulda.

[31] This debate is discussed in detail in Wiener 2007.

[32] Morris 1995, 64-66.

[33] Lusitano 1561, 12-14.

[34] Schubert 2002, 514.
[35] Butler 1974 (605-604) discusses various treatments of sequential imitation. Zarlino's *L'istitutione harmoniche* includes a two-voice sequential canon over a cantus firmus as well as a three-voice canon without cantus firmus. The appendix in Giovanni Chiodino's *Arte prattica Latina e volgare di far contrapunto a mente e a penna* (1610), entitled "De locis communibus musicalibus," provides thirty short, two-part examples of sequential imitation; this was reproduced at the end of Johann Herbst's *Musica poetica* (1643) and again in his German translation of Chiodino (1653). Finally, Moritz Vogt's *Conclave thesauri magnae artis musicae* (1719) distinguishes *phantasia simplex* from *phantasia variata*, which exactly parallel the first-species, skeletal *elaboratio* and the more florid, motivic *decoratio* discussed in the present study.
[36] Urquhart 1969, 129 (emphasis added).
[37] See Dodds 2006, Bellotti's preface in Spiridione 2008, and Gauldin 1996. Gauldin's conception of stretto canons is decidedly within the environment of written composition: "In stretto canons, the composers were literally forced to work from one note to the next, while keeping track of all of the voices at the *same time*." He does not discuss the improvisation of stretto canons, and his formalism is not especially well-suited to improvisational learning, but many of his first-species stretto reductions are built upon sequential subjects. He does not link these explicitly to the expedient construction of stretto canon, but these are exactly the sorts of subjects that make it easiest—indeed, that make it improvisationally plausible. In particular, his examples focus on the -3/-3/+4 (and its variants) discussed by Spiridion, Montaños, and others. This particular subject, it seems, is the holy grail of improvised stretto canon.
[38] Butler 1974 (608-11) discusses Claudius Sebastiani's *Bellum musicale* (1563), in which an explicit mnemonic link is drawn between the relationship of the simple *fantasia* to its more elaborate rendition, the *fuga*, and the relationship of the memory loci to their constituent images, ala Quintilian.
[39] Vogt 1719, 154, 213.
[40] Lamott (1980) aptly points out that Spiridione's imitative pedagogy consists of variations on a single canonic structure, rather than the construction of different ones. He discusses the treatment of canon in the *Nova Instructio* from a somewhat different angle; I find it more illustrative to conceive of Spiridione's method through the same hierarchical lens of *elaboratio* and *decoratio* that has formed the cornerstone of my approach, but I certainly do not claim to be the first to discuss this aspect of the treatise.
[41] Edoardo Bellotti (2008) notes that the novelty of Spiridion's approach is his focus on the double descending third plus ascending fourth as a canonic subject—indeed, the only one that permits the construction of strict canons in three voices with possibility of inversion and retrograde. See pp. xvii-xviii. Morris 1995 also discusses canon groups, which include canons related by the Klein group of TTOs P,

I, R, and RI; in this case, the P and RI canons (as well as the I and R canons) are from the same canon system.

[42] Bruce Lamott (1980) notes the absolute lack of counterpoint instruction in Spiridion's treatise, likening his bias to that of Werckmeister in the *Harmonologia Musica*—namely, the circumvention of copious rules via simple conceits such as sequential canon subjects, parallel thirds and tenths, and so on.

[43] Morris's (1995) presentation of canon groups is not explicitly improvisational, but the notion that a canonic object can be rotated, inverted, and retrograded and maintain some essential properties is one that he discusses. Admittedly, applying the TTOs as such to canons is not immediately accessible to an improviser, but the concept can be thought of much more simply as permutations on the ordering and contour of a fourth in one direction and two thirds in the other direction.

[44] Wiener 2007 mentions in this regard Gottfried Heinrich Stoelzel's 1725 publication, *Praktischer Beweiß, wie aus einem nach dem wahren Fundamente solcher Noten-Kuensteleyen gesetzten Canone perpetuo in hypodiapente quatour vocum, viel und mancherley, theils an Melodie, theils auch nur an Harmonie, unterschiedene Canones perpetui a 4 zu machen seyn*. The title speaks for itself as a more extreme case of canonic variation than Spiridione's, which Wiener attributes to the eighteenth-century aesthetic of reducing complex phenomena to combinatoric playthings, and also to the increasing skepticism as to the weight carried by mechanical procedures such as canons in the measure of musicianship. Werckmeister, writing a quarter of a century earlier, is certainly sympathetic to the learned-counterpoint-made-easy approach, with his emphasis on *Griffe* and *Vortheile*; however, he proclaims the utility of canon, rather than rejecting its musical merit.

[45] These two topics were of special importance to the Baroque keyboardist, of course, for their relevance to fugal improvisation; double counterpoint is a prerequisite to constructing subjects and countersubjects that could rotate through any voice of the texture, and canon is necessary for creating a stretto. See Dodds 2006, section 1.3. Dodds elucidates Werckmeister's pedagogy and demonstrates its application to various Praeambula, Praeludia, Magnificants, and Chorale Fantasias of Buxtehude. I discuss it here in connection with the lineage of other sources on improvised canon, and to point out a few interesting aspects of Werckmeister's approach upon which Dodds does not focus.

[46] Yearsley 2002 cites Werckmeister's own statement that the inversion of a double counterpoint is "ein Spiegel der Natur und Ordnung Gottes" (a mirror of nature and of God's order) (Werckmeister, 101).

[47] Werckmeister's title page inscription reads as follows, revealing his concern with a kinesthetic and tactile approach to counterpoint in which keyboard-specific hand positions expedite the extemporaneous performance of structures as complex as canons and double counterpoint:

"*Harmonologia Musica,* or a short introduction to musical composition in which one—using the rules and remarks of thoroughbass—composes and extemporaneously plays a simple counterpoint by taking special advantage of three structures or hand

positions. Through these, one could also take the opportunity to advance and learn the art of extemporization [*variiren*] at the keyboard and in composition. Alongside this, [there is also] instruction of how one may compose and construct double counterpoint and various canons or *fugas ligatas* through special hand positions and advantages, from the mathematical and musical bases established and published by Andreas Werckmeister" (Harmonologia Musica oder Kurze Anleitung zur musikalischen Composition Wie man vermittels der Regeln und Anmerkungen bei den Generalbass einen Contrapunctum simplicem mit sonderbarem Vortheil durch drei Saetze oder Griffe komponieren und extempore spielen: auch dadurch im Clavier und Composition weiter zu schreiten und zu varieren Gelegenheit nehmen koenne: benebst einen Unterricht wie man einen gedoppelten Contrapunct und mancherley Canones oder fugas Ligatas, durch sonderbahre Griffe und Vortheile setzen und einrichten moege aus denen Mathemathischen und Musikalischen Gruenden aufgesetzt und zum Drucke herausgegeben durch Andream Werckmeistern.)

[48] Wiener 2007, 423-4. Wiener never mentions the improvisation of these strict procedures, though, the accessibility of which is perhaps the greatest fruit born by Werckmeister's efforts.

[49] Michael Dodds (2006) notes the ingenuity of Werckmeister's usage of parallel thirds as a way of generating easily learnable invertible counterpoint and stretto patterns.

[50] The treatises discussed here are certainly not the only ones to put forth canonic techniques that are simple enough to be learned improvisationally. See, for example, Julian Grimshaw's (2006) discussion of Morley. Building on Morley's prohibition (in canon at the fifth) against ascending two (i.e., by third) and descending three (i.e., by fourth), and his recommendation to descend two and ascend three, Grimshaw generalizes a rule for canon: "Namely, that if a composer proceeds using even-numbered intervals in one direction (for instance, rising 2nds and 4th), and odd-numbered intervals in the other (falling 3rds and 5ths), the resulting counterpoint will always work." Of course, this only works at a time interval of one note value.

[51] Vogt 1719, 156.

[52] Butler 1974 points out that reason for learning stretto structures in simple, first-species counterpoint is not only universality—namely, that their motivic ambivalence allows for seemingly limitless possible surface elaborations—but indeed also mnemonic plausibility. His study of *fantasia* traces the history of mnemonic devices for polyphonic structures, in order to demonstrate the cognitive plausibility of extemporized imitative polyphony. According to Butler, "fantasia" referred not to a particular genre of keyboard music, but rather to a ready-made point of sequential imitation that could be learned and memorized as a unit and then applied via instantaneous recall; thus, the *fantasia* was something of the imagination—a musical image—while its elaborated incarnation as a *fuga* was indeed real.

[53] For a fascinating illustration of how these canonic patterns can be applied to the improvisation of larger imitative pieces, see Porter 2003, especially his analysis of Heinrich Scheidemann's *Fantasia in G*.
[54] *Ibid*., 142.

Chapter 5: A Sample Introductory Pedagogy of *Decoratio*, *Elaboratio*, and *Dispositio*

Introduction

Synthesizing some of the pedagogical techniques of keyboard improvisation in the Baroque allows us to apply them toward a fuller understanding of improvisation and improvisations, but it also enables us to construct a historically informed syllabus for teaching the skill to our present-day students. Indeed, the music of the seventeenth and eighteenth centuries can, and should, be something that we and our students *hear* and *do*—something that both utilizes and fosters our listening and performing abilities. To be sure, the differences between music students of the seventeenth and eighteenth centuries and those of today are enormous; present-day students have different abilities, different musical backgrounds, very different priorities and interests, and much less time, which is not to mention that keyboard improvisation is no longer (except in a small few cases) a vocational need for today's musicians. Thus, I view the pedagogical methods set forth in this chapter as tailored to the expert student, who is well equipped and curious to learn improvisation and who views musical mastery as broader than the single focus of performing the canonic repertory of his or her instrument. The most direct format for this learning is as part of private study, or in a separate keyboard skills class for pianists, organists, theorists, and others who are interested. An improvisational track, such as the one proposed here, could exist alongside tracks for score and clef reading, transposition,

and other skills that center on fluency with the keyboard (rather than necessarily on the performance of piano literature, as class piano curricula tend to do).

However, I also recognize the fact that only a few of our music students, even among keyboard majors at conservatories, have both the requisite abilities and the requisite enthusiasm to take on the new task of learning stylistic improvisation. Derek Bailey's hyperbolic characterization of the non-improviser's approach to music is both funny and largely true, and presents a need for bridging the ownership gap between the classical performer and the classically performed:

> In the straight world the performer approaches music on tiptoe. Music is precious and performance constitutes a threat to its existence. So, of course, he has to be careful. Also, the music doesn't belong to him. He's allowed to handle it but then only under the strictest supervision. Somebody, somewhere, has gone through a lot of trouble to create this thing, this composition, and the performer's primary responsibility is to preserve it from damage. At its highest, music is a divine ideal conceived by a super-mortal. In which case performance becomes a form of genuflection.[1]

This necessitates two courses of action on our part: First, we must be good salespeople, demonstrating the relevance and benefit of improvisational skill so that students will want to learn it; and secondly, we must find ways to incorporate keyboard improvisation into the more general curriculum of integrated musicianship that also encompasses aural training, written theory, and the other "core" classes of a collegiate musician. These two goals go hand in hand, it seems to me, because keyboard improvisation is indeed a vehicle through which a great many skills—even beyond the improvisation of keyboard pieces—are cultivated. Here are just a few examples: As part of an existing class in written theory, keyboard improvisation could play a role as a creative and efficient method of writing counterpoint, which stands in direct opposition to any list of prescriptions and prohibitions. By learning to

improvise simple diminutions over a ground bass line, for example—a topic to be discussed presently—students can learn to generate successful musical utterances much more quickly, and, in my opinion, a great deal more rewardingly, than if they consider the enterprise only in its written form. Or, even more basically, a simple part-writing solution can be written on the board, and the soprano line can become the *elaboratio* for a set of improvised embellishments. While the class would sing the lower parts, individual students would take turns at the keyboard, provided with some basic guidelines for adding diminutions (many of which are provided below), and turn the often rather sterile exercise of part-writing into a creative and enjoyable activity of musicianship. As part of an aural training curriculum, students with even basic keyboard abilities could participate in a call-and-response learning format that teaches immediate aural apprehension while also developing mechanical fluency with idioms at the keyboard. I have also adapted large portions of the *decoratio* presentation in this chapter to vocal improvisation over ground basses; there are important differences between the two media, which exceed the scope of this chapter, but one can certainly imagine how some of the diminution techniques presented here can be sung, and not just played.

In considering the application of keyboard improvisation to the education of today's students, it would seem wise to make both its appeal and its impact as broad as possible. That is, given the highly specialized tracks of musicianship practiced by today's performers, composers, conductors, and scholars (—indeed, even the way in which I have listed them as separate membership categories is evidence of my

point—), we are not interested exclusively in training the next generation of keyboard improvisers. Many of the advanced concepts presented here are applicable only to those intending to become skilled keyboard improvisers. However, as discussed above, it remains our task not only to teach improvisation, but also to enlighten the pedagogies of composition (i.e., counterpoint) and even analysis through particularly focused methodologies that lie somewhat outside the mainstream approaches taken in present-day classrooms. One of the most sure-fire ways of accomplishing this task is to keep our definition of improvisation broad enough to encourage students to see these skills as equally relevant and beneficial even when they are not applied in real time. This means encouraging them to inhabit an intermediate path between composition-with-pen and improvisation-with-keyboard, namely composition-with-keyboard—a mode of worked-out, even rehearsed playing that exists purely at the instrument. Of course, as Chapter 1 made clear, memory must be developed, and not every student can retain this much music at first. So, in the initial stages, a shorthand system could be used (perhaps including a bass line or an outer-voice framework, or even just a list of waypoints such as cadences); the point is not to avoid notation altogether, but rather to ensure that the primary creative tools are the fingers and the keyboard, and not the pen and the manuscript paper. Such a process fosters a marriage between improvisational techniques and the additional time to think and capacity for revision that characterize composition. Thus, as long as improvisational studies are forming the basis for compositional study, so extemporaneous music might be more or less spontaneous. Indeed, this goes for all improvisational learning,

the skills of which are both rehearsed and made useful in this hybrid state of musical creation.

One of the biggest contributions an improvisational awareness can have for a performer, even one who does not specialize in it, is to demystify the creative process; as soon as the performer possesses the requisite improvisational skills to imagine him- or herself generating idiomatic musical utterances in real time, a heartier, more intrinsic bond forms between that performer and any music—not just improvisations—that he or she plays. So, we might also think about teaching a mode of "virtual improvisation" in our written theory and aural training classrooms, whereby students do not actually *play* to improvise, but rather rely upon internalized patterns to compose simple counterpoint or a basic phrase model on the spot. These patterns might be internalized at the keyboard initially, through keyboard assignments (e.g., progressions to play and transpose), but can be applied even away from the instrument.

William Porter comments eloquently on the need for a broad definition of improvisational musical learning:

> It raises interesting questions about the relationship between memorization and improvisation and allows for the possibility that improvisation was in some respects the result of internalized and memorized examples of compositional work. Thus, the concept of repertoire as improvisation sounded is balanced by a concept of improvisation as repertoire, or written-out music, internalized.[2]

Porter's commentary occurs in the context of a report on his pedagogy of North-German Praeambulum of the seventeenth century, which unfolds in a hierarchical manner much akin to the one espoused here: Students learn which progressions, devices, and textures occur in the *exordium*, which in the middle section, and which

in the *finis* (thereby remaining aware at all times of the *dispositio*), and then they learn to apply a certain set of diminutions to these formally determined generating principles. I will discuss a curriculum that demands somewhat less prerequisite knowledge and ability—essentially just figured-bass realization—in an attempt to maintain as broad a swath of applicability as possible for all of the techniques at hand. (After all, concepts such as voice leading, diminution, long-range planning, and musical idioms are applicable far beyond the reaches of the keyboard.)

During the last several years, I have taught a course to pianists at the Eastman Community Music School for which the goal has been to reinforce concepts learned in their theory classes with aural and tactile activities at the keyboard.[3] My experiment has been to adapt my counterpoint unit into a graded set of activities that teach keyboard improvisation in the Baroque style. The experiment has been mostly very successful; students with no improvisational experience have learned to extemporize pieces such as ground-bass variation sets and minuets.

Many of us share similar frustrations in teaching eighteenth-century counterpoint. When writing Baroque counterpoint, students almost invariably seem to focus either too much or too little on chords—that is, they produce either an overly vertical, arpeggiated texture that lacks a sense of linear melodic motion and ignores dissonance, or a harmonically uninformed—indeed, even pandiatonic—line that meanders heedless of syntactical progression. Indeed, the ages-old *line vs. chord* tension needs to inform our desire for students to model both the syntactical logic and the linear fluency of this music. Thoroughbass offers the ideal starting point by

providing an unambiguous harmonic framework, but still within a context that encourages voice leading rather than chord roots; it also serves as a springboard for keyboard improvisation, offering the keen students of today exactly what it offered the students of the seventeenth and eighteenth centuries—namely, a kinesthetic point of entry into composition and improvisation. The trick, then, is to employ a pedagogy that does both simultaneously, teaching counterpoint through a set of voice-leading strands that both define an underlying progression and exhibit linear coherence and motivation unto themselves. Conveniently, this is both the method easiest to learn and execute as an improviser *and* the one most likely to result in successful compositions.

Ground-Bass Variation Sets and the Mastery of *Decoratio*

The pedagogical approach often taken to teach model composition to undergraduates (e.g., minuets, theme-and-variations, etc.) is typically a top-down one that begins with formal procedures (e.g., rounded binary form, parallel interrupted or parallel progressive period), moves down to the schematic arrangement of cadences, modulations, and sequences, and then applies one or more motives within the constraints of local harmonic progressions. Such a compositional method is what Stravinsky would have called Apollonian;[4] it certainly has its strengths, namely the assurance that students' pieces will be proportioned properly into phrases, that they will reach cadences at the right times and in the right keys, and so on. It also meshes neatly with the three-tiered hierarchical conception of improvisation set forth in this study. Beginning with a large-scale outline could provide context and boundaries for

what happens more locally, but it runs the risk of soft-pedaling the creation of motivic counterpoint between outer voices, the rhythmic and melodic navigation of a figured-bass progression, the choice of an appropriate musical texture, and the nuts and bolts of getting from one musical event to the next; it can also be overwhelming to beginning improvisers, as it would require students to internalize long-range plans for pieces, sets of formulas for progressions and cadences, *and* diminution techniques before they could improvise anything resembling real music. So, any initial discussion of long-range planning must be limited to the presentation of an eventual outcome determined by a series of goals and waypoints; the pedagogy *must* delve right away into the construction of an idiomatic musical surface. The problem might be the same one that instructors of written theory encounter when students compose in historical styles; even if they manage to write something that matches their diagrams, they struggle to become conversant with stylistic idioms and their pieces sound very little like the ones they are meant to model.

Indeed, an improvisational curriculum is still Apollonian in many regards, especially given the hierarchically structured conception of improvisational skill adopted here; but it is far less biased toward a top-down approach, since it treats all three hierarchical levels of improvisational learning and generation—*dispositio*, *elaboratio*, and *decoratio*—as equally important and more-or-less independently employed. Pedagogically, a better option than the top-down method is to begin right at the musical surface, and right at the keyboard, by eliminating the need for students to decide upon a long-range formal outline or even more local progressions. Ground-

bass variation sets control for progression, so to speak, by recycling the same form and even the same underlying voice leading in each iteration; therefore, students can become intimately familiar with a particular progression (and often a very short one) and focus only on *decoratio*, or diminution practice, as they improvise sets of variations on it. By beginning with ground basses, one eliminates the need for teaching *elaboratio* (i.e., progressions and syntax) or *dispositio* (i.e., larger-scale planning) in the initial stages; these can follow later, once a basic fluency is achieved with improvising over a fixed voice-leading structure. In the meantime, teaching students to create an idiomatic musical surface for ground-bass variation sets is an enterprise that can engage their musicianship and build important skills without being overwhelming to the less advanced musicians.

As a first step, students must internalize a referent to the point of absolute fluency; a figured-bass progression provides a template within which to develop an improvisatory vocabulary. Below is a figured ground bass for a Chaconne, which will serve as a sample template for our exploration of *decoratio* pedagogy. The bass is of no use without the voice-leading fabric that it implies, and the ability to realize figured basses chordally is a prerequisite to this improvisatory curriculum, so students begin by creating a four-voice homophonic accompaniment, a sample of which is shown here:

Figure 5.1. Figured Bass and Realization as a Four-Voice Accompaniment

A. Thoroughbass Progression:

B. Four-Voice Accompaniment:

This ground bass resembles ones found in variation sets of the Baroque, including the first eight measures of J. S. Bach's *Goldberg Variations* and two sets of Chaconne variations by G. F. Handel (G228 and G229), all of which are in the same key of G major as well. It is tempting to provide students with these pieces—both improvisations at least to some extent—as models right from the start, so that they might extract specific patterns for improvising over this bass line as well as develop a general stylistic awareness. However, it is more worthwhile to save such piece-specific modeling for after students have acquired some improvisational skill themselves; the goal is to acquire flexible skills of *generating* pieces such as these, not merely to memorize passages that can be *imitated*. Porter nicely captures this sentiment:

> Most of the students in the group had only minimal familiarity with the repertoire in question. Surprising though this lack of knowledge may be, it was in fact an advantage in that it allowed the genre to be taught as a series of improvisational procedures, unencumbered by students' memory of specific compositions. No examples from the repertoire were presented to illuminate a procedure or exercise until after it had been reasonably well mastered by the group. Since the goal of this endeavor is re-creation rather than imitation, this will continue to be the policy.[5]

The four-voice realization above serves as a springboard for potential voice-leading skeletons. It yields three upper voices (i.e., soprano, alto, and tenor) that could each form a two-part voice-leading structure in first-species counterpoint with the bass. For each of these possibilities, students play the bass while *singing* the upper voice; they combine playing and singing right from the very beginning, not only to connect the ear with the fingers but also to insist on an investment in each note as more than just a key to be depressed on the keyboard. Not all of the potential sopranos are equally good choices, of course, so students learn to choose one based on a preference for imperfect consonances except at cadences, and for a well-motivated and interesting melodic line. To define well-motivated and interesting, they learn to discern a basic middleground structure for each melody; those that consist of neighbor tones around a single pitch (such as the soprano and alto voices above) are rejected in favor of those in which the middleground consists of a linear progression or an arpeggiation. Finding a suitable soprano often necessitates combining two or more of these potential soprano voices into a hybrid line, such as those shown at the top of Figure 5.2. (In due course, the introduction of compound melody will render the selection of a single best upper voice moot; but, it is still a worthwhile endeavor to distinguish those lines sufficiently motivated to be outer voices from those too static to be anything but inner ones.)

Figure 5.2. Extraction of Three Upper Voices as Potential Frameworks, Plus Two Hybrids

Throughout their improvisational study, students actually should be encouraged to look at the keyboard while they play. Visual learners in particular find success latching onto the topography of the keyboard and assimilating the look of G major (for example) as well as the feel of it, thereby visually discerning those hand positions that are relevant to the key. David Sudnow's account of learning jazz improvisation at the keyboard stresses this same marriage of the visual and tactile domains; improvisation consists of shapes to see, places to go to, and hand positions to grab, and the keyboard is uniquely suited to fostering all of these conceptions at once.[6]

After choosing and committing to a specific soprano-bass framework, the keyboardists can begin to assimilate methods of diminution that render it as a musical surface. At first, I insist that they keep the notes of the framework on the downbeats of each bar, and connect them together with combinations of passing tones, neighbor

tones, and chordal skips. Having realized the figured bass chordally, they already have a mental representation of stable chord tones for each bar, so I often ask them to sing the soprano framework in sustained notes while playing a more florid elaboration of it on keyboard, as shown below, in order to instill the sense that this linear framework is present and governing even when it is not actually sounding.

Figure 5.3. Sing-and-Play Activity (i.e., sing the framework, play the embellishment)

I also allow them to use a "lead sheet" while improvising, which consists of skeletal counterpoint as in the top and bottom staves of Figure 5.3. There are several reasons for this: First, as discussed throughout this study, improvisational memory is a trained skill that beginners are unlikely to possess at the level that would be required to improvise diminutions without any sort of notation. A pre-motivic melodic shape, such as those in Figure 5.2, on the top staff of Figure 5.3, and in Figure 5.8, can make the acquisition of *decoratio* technique much more successful while students are still trying to assimilate the *elaboratio* frameworks into memory. (Incidentally, the notation can help a great deal with the latter as well, particularly for visual learners.) Secondly, I have found it *much* easier to teach students to play through a phrase (i.e., to connect moments together rather than thinking within bar lines) when at least a sketch of this larger picture appears right in front of them; it

serves as a basis for discussion during instruction, and as a predetermined shape to encourage thinking and planning ahead during improvisation. Finally, although improvisational memory is ultimately the tool that enables skilled improvisation, it is not necessarily the primary pedagogical target of every individual exercise; some individual practice sessions are for internalizing and memorizing patterns, but other practice formats and classroom activities are designed to assist students in locating motivic potentials in a voice-leading framework, for example, or to build fluency with playing without stops. Memorization need not be an obstacle in the way of every improvisational endeavor, especially before beginning improvisers have had much of a chance to develop it.

The initial stage of learning to embellish a voice-leading structure is pre-motivic; the figure employed in one measure need not relate in any way to the one employed in the next measure, since this early enterprise is an exploratory one, meant to assimilate *decoratio* patterns into students' improvisatory vocabularies. An important aspect of this exploration is the act of building comfort with various melodic patterns—chordal skips of a third or fourth, passing tones to connect two adjacent chord tones, neighbors to embellish a stationary stable pitch, and combinations of these. Since fluency is the goal—that is, improvisation without pausing to think—the rhythmic potentials of these various melodic shapes must also be committed to memory. This means that the same bass and voice-leading structure can be placed into several different meters (e.g., 6/8, 3/4, 4/4) in order to explore the particular melodic-rhythmic configurations that are best suited to each. An instructor

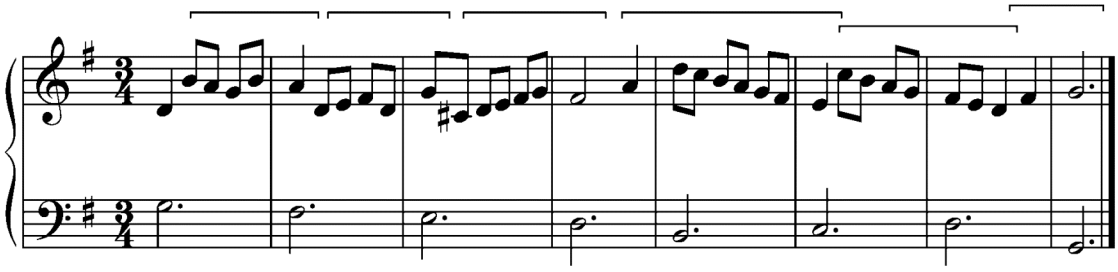
might even tell students occasionally to envision, as they play a rhythm, how it would actually be notated on the page (e.g., a long-short-long rhythm in 3/4 as dotted quarter, eighth, quarter, or in compound meter as a beamed dotted eighth, sixteenth, eighth), thereby tying their improvisation together with their dictation skills, as both involve sound-to-symbol mappings. Students are encouraged to spend a substantial portion of their practice time experimenting—that is, working to discover melodic patterns, repeating them, and then memorizing them.

A novice's first instinct is often to focus on one measure at a time, using the bar lines as conceptual boundaries; this produces results such as those in Figure 5.4, which sound like the record has skipped at each bar line. To combat this error, I try to reorient them toward constructing melodic figures that *aim for and include* the next downbeat. Hence, the conceptual "measures" actually span from just after a downbeat, through and including the following downbeat. It is precisely this distinction that emerged in the eighteenth century as diminution treatises became more sophisticated, and it is of paramount significance that it be instilled in an improviser's frame of reference from the very start. Figure 5.5 demonstrates an improvisation conceived in this preferable way. At this stage, I often find it helpful to provide some general, Aristotelian guidelines about melodic rhythm at the beginnings, middles, and ends of phrases—in other words, medium-density rhythms and repeated patterns at the beginning, and then an acceleration toward the eventual resting point at the cadence. Within any meter, students are also encouraged to restrict themselves to within one durational level of the pulse; in simple meter, the quarter

note would be most frequent, followed by the eighth-note division, followed by the multi-beat duration of the half note. To prevent the unstylistic juxtaposition of rhythms that are too different in length, they are also instructed to avoid "skipping" a level except at a cadence (e.g., eighth notes should not immediately precede or follow half notes).

Figure 5.4. Improvisation Conceived Within the Bar Lines

Figure 5.5. Improvisation Conceived Across the Bar Lines



Next, students learn that the notes of this consonant framework need not occupy the downbeat; suspensions and other accented dissonances are essential to an idiomatic improvisation. In fact, the desire for a suspension often motivates a mid-measure shift from one melodic framework to another, in order to prepare a fourth or seventh above the bass in the coming measure. They learn where the soprano can descend by step onto a third or sixth above the bass, and how to prepare these as suspensions. Examples of the resultant improvisations are shown below.

Figure 5.6. Improvisation Employing Suspensions

Throughout these exercises, the goal is to assimilate a repertory of *decoratio* patterns that can be accessed immediately during improvisation. I often tell students to divide a twenty-minute practice session in half: For the first ten minutes, they work slowly and out of time to discover patterns, practice them, and memorize them. (For a beginner, these "discoveries" might be as simple as the distances between one stable note and another for a particular measure, and the melodic-rhythmic shapes permitted by that distance.) For the last ten minutes, they play uninterrupted with a metronome and work on recalling and applying the internalized patterns in real time. At this stage in the curriculum, an important benefit of improvising over short ground-bass patterns is that the inherent repetition encourages students to loop the bass repeatedly, providing a perfect test track for rehearsing, refining, and memorizing melodic patterns. Beginning improvisers are prone to stopping and thinking about what to do next, since they do not trust their instincts or have not developed any instincts to begin with; this fifty-fifty division of practice time is meant to develop flexibility and awareness, which are practiced out of time, as well as fluency, which is practiced in time.

Even despite the enormous pedagogical value of asking students to discover *decoratio* patterns themselves, many of them simply do not possess the requisite stylistic awareness to come up with idiomatic ones. As a result, the learning process

must also include the imitation and memorization of pre-made patterns. Such an approach is espoused by Spiridione a Monte Carmelo in the *Nova Instructio*, who tells students to imitate and practice the *cadentiae* that he provides, and then string together these memorized units in improvisation. With modern-day students, a certain amount of learning can take place by presenting them with a handout of surface realizations of a ground-bass pattern, and asking them to practice and memorize them, provided that they transpose the realizations to at least a few other keys, adapt them to at least one other meter, and add at least one diminution of their own to the mix; these requirements greatly assist students' internalization of the patterns beyond the exact format in which they were presented. However, the practical limitations posed by students' busy schedules and rather limited practice time (especially in comparison to the students of the seventeenth and eighteenth centuries!) make this somewhat infeasible at times. As an alternative, I communicate these patterns to the students in the classroom environment of a keyboard lab in the form of call and response. I play a pattern over the ground bass while all students play the bass line, and then they immediately play it back; we do this several times, until all students have the pattern in their fingers, and then move on to the next pattern for imitation. The aural training is a nice by-product of this method.

As discussed by virtually every seventeenth- and eighteenth-century author on keyboard improvisation, a crucial step in the memorization of learned diminution patterns is their transposition to other keys. Aside from the obvious benefit of being able to play them in any key, the act of transposing itself—that is, of extending the

application of a pattern to a different context—aids tremendously in its memorization as a widely applicable device. Learning a pattern in a single key can be accomplished in a purely kinesthetic manner, as a finger pattern, or in a purely visual manner, as a group of keys on the keyboard; but, learning it in several keys requires a level of abstraction that forces students to think about it more flexibly, and it is precisely this abstraction that fosters an ability to regard diminution as a technique—as a principle—and not just as a finite set of musical utterances to be regurgitated. So, I often ask students to improvise one variation over the ground bass in G major, and then immediately repeat it in F major; as they advance, I ask them to play in G and then in C or D, so that a simple "up a step" or "down a step" algorithm does not suffice and the pattern must be regarded functionally and contextually within each key in order to be transposed.

Once the students build their knowledge bases enough to improvise more or less fluently, I introduce constraints upon the choices that they can make, by giving them rhythmic motives to use. Two of these are shown in Figure 5.7; 5.7A shows just a rhythm, and 5.7B provides a rhythm with a vague melodic shape attached to it.

Figure 5.7. Sample Motives for Improvising

A. Rhythm Only:

B. Rhythm with Rough Melodic Shape:

At first, I ask students to foist as many iterations of the motive into their playing as possible, striving to use it constantly if they can. This exploratory first step does not yield brilliant results, but—importantly—it forces students to be creative enough to locate all possible applications of the motivic material, and not just the obvious few that come to mind right away. Finally, they strip some of them away in order to create contrast, particularly at cadences, and they develop some improvisational taste. Figure 5.8 shows three phases of an improvisation using the first motive from above: first, a skeletal arpeggiation that paves the way for applications of this motive; second, a crowded and repetitive exploratory version; and finally, a more refined one. For reasons discussed above, I typically allow the students to use a written framework such as that in Figure 5.8A as a visual aid while improvising.

Figure 5.8. Employing Motives in Improvisation[7]

A. Preparatory Framework of Arpeggiations:

B. Exploratory Version (with overuse of motive):

C. Refined Version:

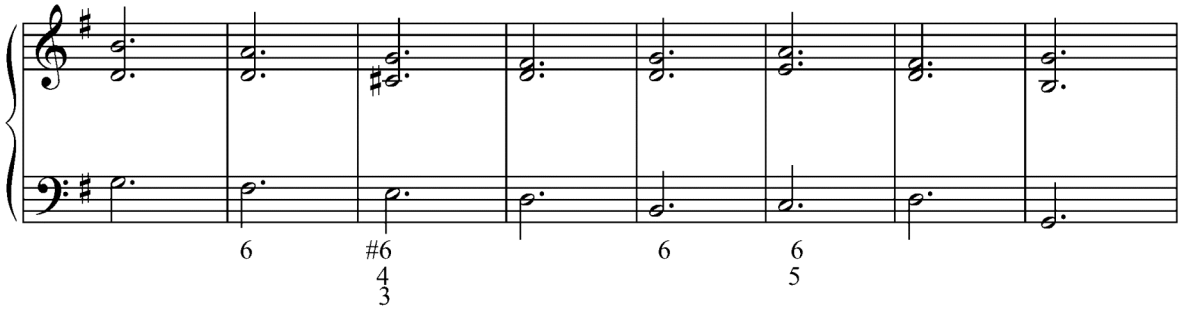
The introduction of motives also offers another opportunity for ear training in the form of call-and-response. These classes take place in a piano lab, so each student has his or her own keyboard. I give the students a framework that I am going to use, and we begin by playing the bass together and looping back to the beginning

each time. Next, the students continue playing just the bass voice, while I realize the first half of the framework using a simple motive. Their job is to *sing* a continuation in the second half that uses the same motive. The same activity also works with students *playing* the continuation instead of singing it; this is slightly more advanced, since it requires students to map an aural impression onto a tactile pattern in real time.

After motives, the next step is to improvise compound melodies by leaping between two voice-leading frameworks that occupy different registers. This requires a three-voice framework (soprano, alto, and bass) rather than simply the soprano-bass duet employed up to this point. Figure 5.9A shows the three-voice framework that will serve as the basis for this demonstration. Figure 5.9B is a preparatory rhythmic exercise that students practice in order to separate (both conceptually and kinesthetically) the two voices through alternation; it divides the right hand into a 'thumb region' and a 'pinky region.' I give students very concrete instructions for learning to improvise compound melodies; for example, I encourage them to stay in the same voice over a bar line, and jump between the two voices after the strong beat. Two simultaneous right-hand frameworks give rise to different types of motives that span a larger melodic range, and they offer the potential for implied suspensions, as Figure 5.9C demonstrates.

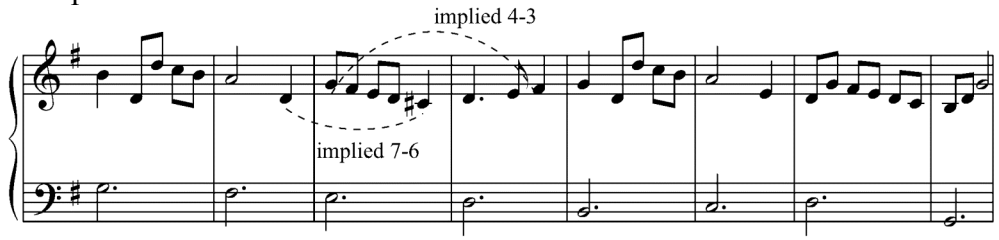
Figure 5.9. Improvisation Employing Compound Melody

A. Three-Voice Framework:



B. Simple Arpeggiation Exercises (to build mechanical fluency and to aid in conceptual separation of the two right-hand voices):

C. Improvisation:



The implied suspensions in Figure 5.9C above, particularly the 4-3, are quite subtle concepts that demand clever—and perhaps not very intuitive—pedagogical techniques. The trick to teaching students to incorporate these lies in the preparatory exercise of Figure 5.9B: The primary goal here is for students to sense, both aurally and in their hands, that both the upper "pinky voice" and the lower "thumb voice" are present at all times, even though the single melodic line needs to weave back and forth between them. Once this sensation is carried over to more florid improvisation, Michael Wiedeburg's technique of deriving implied suspensions through compound

melody (discussed in Chapter 3) can be applied to great effect. After the second measure of Figure 5.9C, for example, the D in the thumb pulls strongly toward the C-sharp that follows it, and all one must do to imply the suspension is to come later, rather than earlier, to that C-sharp. Likewise, the G in m. 3 pulls inexorably to the F-sharp, but the rhythmic separation between these places F-sharp at the end of its measure, thereby implying a suspension. It is absolutely essential, not only to the implication of suspensions but also to the eventual skill of three-voice improvisation, that these multi-voice *elaboratio* structures be *felt* in the hands and aurally imagined as multiple continuous lines.

Compound melody leads to improvisation in three voices via a simple technique of rhythmic complementation, which is illustrated in Figure 5.10; this is the same principle discussed at length by Michael Wiedeburg in his diminution manual.[8] Students begin with two simultaneous melodic frameworks as before, and I ask them to sing one of them while playing the other one and the bass voice. This builds the skill of separating the two upper voices aurally before they try to improvise independent lines. The *play-and-hold* principle then teaches the students to apply diminution to one voice at a time while sustaining the other; this yields two contrapuntally equal voices plus the bass, but is still simple enough for a beginner to master.

Imitation between the two upper voices is an extremely important way of balancing rhythmic activity (i.e., creating complementary voices) while also maintaining motivic coherence, and it is admittedly a more advanced technique.

Applying the same motive to both voices is crucial from both stylistic and practical standpoints; a unified musical surface demands a relationship between the *decoratio* applied to one voice and that applied to the other, and it is also a far more manageable improvisational task to choose one motive and apply it in alternation between voices. Fortunately, a musical surface that sounds rather complex, owing to the presence of imitation between upper voices, is actually *easier* in many ways than one involving a haphazard assortment of motivic shapes. Preparatory exercises pave the way toward improvisations such as those in Figure 5.10; students are given just two or three measures to work with, and are also told which specific motivic shapes to apply, so that they can find their way with this technique, which is often more technically challenging to play.

The three-voice framework elaborated by the improvisation in Figure 5.10 is different from the one in Figure 5.9A, which demonstrates an important next step for students who have mastered basic diminution techniques within various voice-leading skeletons. Criteria must be provided for choosing a good three-voice *elaboratio* framework: Of course, students should begin with the soprano, focusing on finding a motivated line that creates good counterpoint with the bass (i.e., imperfect consonances except at cadences, and contrary motion where possible). In choosing the alto, they aim for complete triads (or maximally complete seventh chords, omitting the fifth), in balance with maintaining stepwise motion and common tones where possible. Throughout the Baroque, though, the alto voice of a three-voice (i.e., trio sonata) texture is much freer to leap than the soprano is, particularly when

doing so preserves the completeness of sonorities and/or the playability of both upper voices by one hand. Students must be made aware of the different demands placed on the inner voice from those on the outer voice: less constrained by stepwise motion, more constrained by the completeness of triads, and bound registrally to within about a sixth or seventh of the soprano.

Figure 5.10. Three-Voice Improvisation with Imitative Complementation in Upper Parts

By working with several soprano-bass duets for a ground bass, and then several soprano-alto-bass frameworks over the same bass, students learn to navigate the voice-leading terrain of the particular progression; they learn both to feel and to see the several voice-leading paths on the keyboard, which eventually frees them to choose voice-leading paths in real time (i.e., without needing to decide upon a fixed pair of voice-leading strands in advance). Two-voice options are simplest, for they limit the task of the right hand to the projection of a single voice, and three-voice options are essential for improvising compound melody and/or imitative three-voice counterpoint in the right hand. Generally, I specify how many voices to use in advance, so that students choose a consistent *elaboratio* for a given improvisation and maintain a consistent texture when they play. The awareness of multiple possibilities for each measure-to-measure progression is crucial for playing in three voices, since

the direction and motivic character of one voice could suggest a particular continuation or response in the other voice; the improviser must be equipped to respond to these potentials in real-time.

Projecting four independent voices, despite its status as the default for figured-bass realization, cannot be done improvisationally when the right hand plays three of them; the voices are too close together, and there are simply not enough fingers to allow independent diminutions to be applied to all three. However, as students advance, I make them aware of the possibility of thickening the texture leading into cadences (by adding an inner voice to a soprano-bass texture, for example, or by using full four-voice textures to punctuate the final few chords of a cadential progression).

A huge benefit of teaching counterpoint at the keyboard is that compound melody—which is an absolutely indispensable technique of Baroque counterpoint—is immediately accessible once students have committed a three-voice framework to muscle memory; indeed, it is in their fingers already, and they only need to learn to connect their "thumb voice" with their "pinky voice" through a combination of leaps and scalar passages. I have been surprised by the quality of improvisations that even average students can produce, provided that they consistently practice the steps discussed here. Written approaches based on species, by contrast, do not lend themselves as well to teaching this device. The reason, of course, is that written approaches do not teach students to write a first-species solution, embellish it with half notes to yield a second-species one, embellish those halves with quarters to form

a third-species one, and so on; with species approaches, the principles for creating a good third-species line (e.g., downbeat pitches separated by fifth or third) are not the same as those for creating a good first-species line (e.g., downbeats connected by step). In improvisation, though, an underlying *elaboratio* framework *is* present—conceptually and, as discussed above, literally as desired in the form of a shorthand "lead sheet"—during the improvisation of *decoratio*, for it was conceived prior to the diminutions.

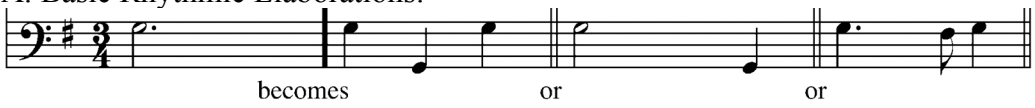
Up to this point, students have focused entirely on the right hand, leaving the bass voice as an unelaborated and contrapuntally unequal partner. Beginners need careful guidance during the process of elaborating the left hand, due to the greater effect that changes in the bass voice have on the entire harmonic framework. Unguided students often treat the fifth of each chord as an equally plausible option for the bass, resulting in a preponderance of mistreated 6/4 chords. So, I initially confine the students to some very basic rhythmic elaborations that require little or no invention, with the intent of activating their left hand as an independent voice. Figure 5.11A shows a few of these, such as octave leaps on the quarter-note level. Next, I ask them to practice patterns such as the one in Figure 5.11B, which uses either the root or the third (whichever is not the skeletal bass note) as an elaboration on beat two. This sort of pattern can then be filled in with combinations of passing and neighboring tones.

For some students, this represents just about the limit of what the two hands can do independently, so I try to encourage at least some activation of the bass voice

by asking them to "fill in the gaps" whenever the right hand plays longer note values, such as at cadences. Talented students can go beyond these simple patterns, though, by seeking to apply diminutions to the bass voice that interact contrapuntally with the upper voice(s). They search for opportunities to create desirable contrapuntal structures such as voice exchanges and parallel tenths or sixths, and to activate the bass voice rhythmically to fill in the space of sustained notes in the upper voices; thus, the bass becomes sympathetic to what is happening in the upper voices, and a more cohesive contrapuntal texture is formed as a result. First and foremost, though, the nature of the *decoratio* applied to one bass note must be aware of—and must lead to—the next bass note, as discussed above with respect to the upper voices. Figure 5.11C shows a slightly more sophisticated example of left-hand elaboration.

Figure 5.11. Simple Elaborations of the Bass Voice

A. Basic Rhythmic Elaborations:



B. Alternation of Root-Third-Root (for 5/3, 7) or Third-Root-Third (for 6, 6/5):

C. More Advanced (i.e., bass is sympathetic to right hand):

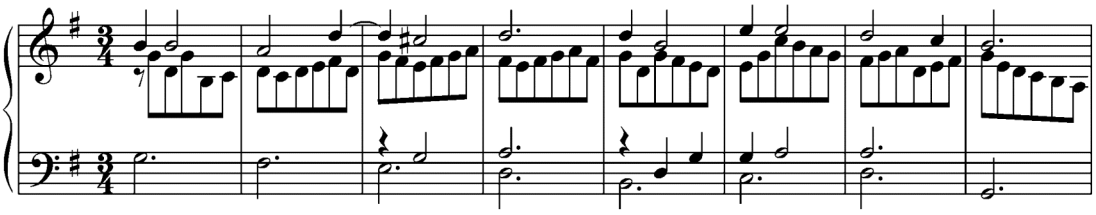
In the last two measures of Figure 5.11C, an additional right-hand voice is added. As discussed above, this is the exception rather than the rule, and students are typically encouraged to maintain a consistent number of voices in their improvisations. However, there are specific instances when a fuller texture is called for, such as an authentic cadence in two voices that features a ^2-1 descent in the soprano; a subordinate alto voice is often added in order to introduce the leading tone at the cadence, and this voice can be extended back to the arrival of the dominant, as above. It is also certainly possible to add or subtract a voice from the texture *after* a cadence, especially in ground-bass variation sets.

Once a foundation has been laid for improvising over one framework, models from the repertoire can be introduced and gleaned for ideas about texture, rhythm, and motive.[9] It is only after students can do some improvising on their own that the examination of pieces takes on an improvisational relevance. Of course, our improvisational learning process is necessarily different from the process undertaken by keyboardists during the Baroque, for our evidence and musical models exist primarily in the results of their work. Indeed, by modeling the received repertoire, ours is a kind of secondary improvisation—a creative method in which the constituent principles are deduced by canonizing (at least to some extent) the improvisations of an earlier time. As William Porter points out, though, this does not mean that these earlier models were the result of a different sort of improvisation; in fact, they are often best regarded as products of improvisation, rather than of any other sort of musical composition: “While it is true that to examine a result is not the same thing as

to examine causal factors, it is possible that an analytical study of examples of the repertoire can reveal compositional procedures that may also have been improvisational procedures."[10] Indeed, this particularly focused mode of analysis, considered almost as the excavation and extraction of improvisationally relevant techniques, serves to introduce at least *some* analytical models to students while they are developing their fledgling skills; aside from the particular techniques, a more general stylistic awareness can emerge in this same way.

For the particular bass line at hand here, Handel's two sets of Chaconne variations (G228 and G229) are simple enough to parse while still intricate enough to warrant close inspection and extraction of improvisational techniques. Figures 5.12-5.15 show just a few selected variations from these sets. In Variation 5, students are asked to notice the soprano-bass counterpoint, which closely resembles something that they would improvise. Beyond this, though, the alto voice moves in constant eighth notes that are cleverly chosen to fit well within the grasp of the right hand as well as to add an appropriate third contrapuntal voice to the texture. The alto can be reduced, more or less, to one pitch per measure in first-species counterpoint with the other voices (i.e., G-D-G-F#-G-G-F#-G), and the rest of each measure in the alto voice can be understood as a means of either embellishing this primary note or approaching the next one, or both. In this way, the eighth notes can be regarded as applications of a diminution strategy to the underlying dotted halves.

Figure 5.12. Handel, Variation 5



The imitation in Variation 12 takes advantage of parallel tenths between alto and bass voices for most of the eight measures. As an exercise, I ask students to read the score for this variation, but to play only the underlying contrapuntal framework—to reduce at sight, so to speak—and eventually to read the Handel score while applying a *different* diminution strategy to this counterpoint (such as upper neighbors rather than lower neighbors, or a trill). Such manipulation of the provided model ensures that the Handel is regarded as an improvisational realization—an option—and not simply as a fixed piece to be learned as is.

Figure 5.13. Handel, Variation 12

Variations 16 and 17 are etudes in continuously running sixteenths. The left hand in Var. 16 and the right hand in Var. 17 are rhythmically uninteresting, but they participate in a voice-leading framework along with the structural pitch of the

sixteenth-note voice. With examples such as this, students parse the virtuosic figuration in several ways: First, they determine which tones are stable and how the others embellish them (e.g., as neighboring tones, passing tones, etc.). Second, they ask how one downbeat reaches the next, and parse the sixteenth notes into units of a downbeat plus the three preceding sixteenth notes (i.e., akin to the *figura suspirans* of the *Figurenlehre* tradition, or to Wiedeburg's three melodic figures). This leads to the categorization of several figures, such as the stepwise fourth (D-E-F#-**G**, i.e., Wiedeburg's *Schleifer*), the turn from below (A-B-C-**B**, i.e., Wiedeburg's *Doppelschlag*), and ones that travel a larger intervallic distance between downbeats, such as between mm. 5-6 (a seventh) and mm. 6-7 (a ninth).

Figure 5.14. Handel, Variations 16-17

Variation 43 is a study in the use of voice exchange to expand harmonies. The first measure expands tonic by means of voice exchange between an unelaborated bass (G-A-B) and an elaborated soprano (**B**-C-**A**-B-**G**); this is preceded

by an embellishing bass neighbor and followed by a lead-in to the next measure. This pattern maintains, where each measure begins with a neighbor, then hinges upon a voice exchange in the second and third beats, and then does whatever it needs in order to arrive smoothly upon the coming downbeat. The escape-tone motive adds just enough melodic interest to this contrapuntal framework, which is essentially repeated in every measure. Students are also be asked to notice the invertibility of voice exchange (by comparing, for instance, m. 1 with m. 5), which provides a needed textural contrast within the variation as well as lending itself to being applied to 6/3 and 6/5 chords as well as 5/3 and 7 chords (since the counterpoint is equally successful regardless of the registral order of root and third).

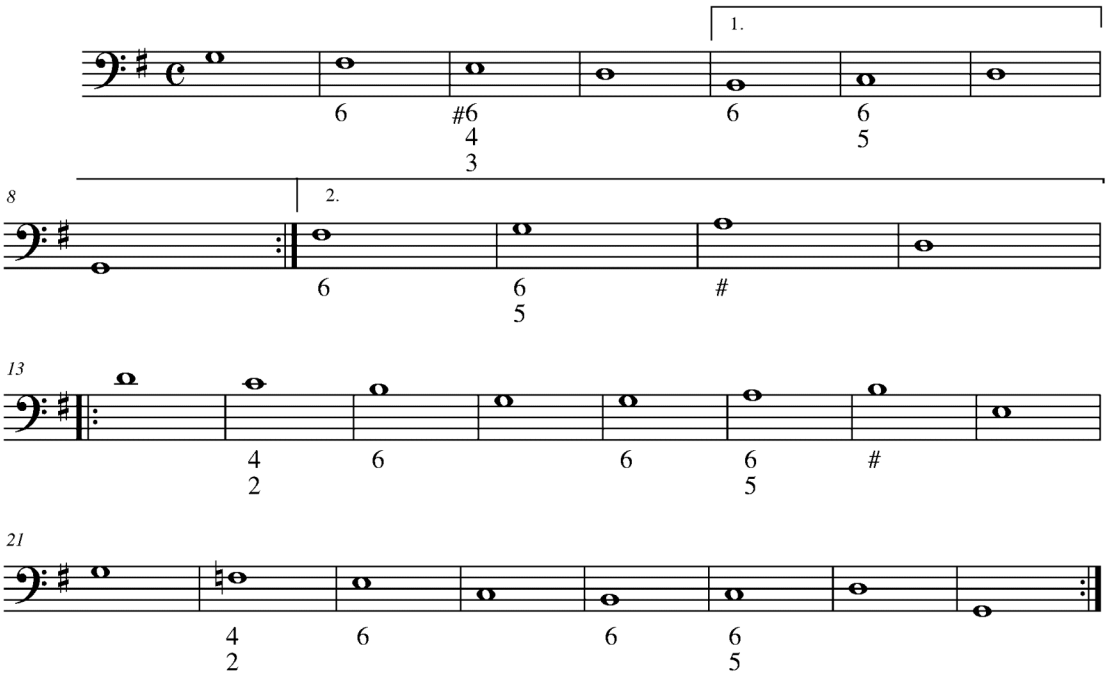
Figure 5.15. Handel, Variation 43

This kind of repertoire modeling comes with assignments that apply the specific contrapuntal, textural, rhythmic, and motivic devices encountered in the pieces. The goal is twofold—-to assimilate new techniques into students' vocabularies, and also to develop stylistic awareness through engagement with musical literature. As mentioned previously, transposition to other keys plays a

crucial role in developing the flexible abstraction necessary to a hierarchically organized improvisational memory; these pieces are storehouses of tools and tricks to be learned, but then applied in *other* contexts.

Finally, as students develop fluency with a repertoire of diminution possibilities for short ground basses, the same principles applied to longer basses lay the groundwork for the improvisation of complete binary-form movements.[11] Students begin with the figured-bass foundation for the entire piece, so that they can continue to concentrate on motivic diminution and not yet on the construction of progressions, modulations, and large-scale tonal trajectories. That is, the focus is still on *decoratio* practice (not on *dispositio* or *elaboratio*), but now in the context of bass progressions longer than the eight measures of a ground-bass variation set. Shown below is a thoroughbass framework for a complete suite movement, modeled loosely on the thoroughbass structure of J. S. Bach's *Goldberg Variations*, over which students improvise an *Allemande*. The piece begins with the same eight-measure ground bass that they had already mastered, but the rest of it is new, so the first step must be to internalize voice-leading frameworks for the entire piece to the point of absolute fluency.

Figure 5.16. Thoroughbass Framework for an *Allemande*



Now that the thoroughbass framework is long enough to include a variety of bass motions and figures, students' exploration of diminution practice can be expanded. As a way to practice applying diminution to several contrapuntally equal voices, the figured bass of Figure 5.16 is first realized as a complete voice-leading *elaboratio*, as shown below. Again, the texture is mostly consistent in three voices, but I have added an additional fourth voice (as discussed above) as a mode of thickening the texture at cadences. Note, however, that this voice is playable by the *left* hand, so that the rule of no more than two voices per hand is not violated. The authentic cadences in G and D in the first reprise, and the repetition at the very end of the piece, all consist of four-measure extended cadential progressions (i.e., I^6 – IV – V – I), so the addition of a fourth voice for those entire spans of music is justified. Of course, once diminution is added, the effect of an additional voice will be heightened

in these places, providing additional rhythmic and textural momentum toward the cadential goals.

Figure 5.17. Complete *Elaboratio* for an *Allemande* (with voice leading)

The voice leading above might simply be provided to the students, but especially strong ones could also be coached through the development of their own. Such considerations as registral balance, preservation of registral continuity through a cadence, quality of sonorities, and disposition in the two hands could be considered as part of this process.

To render this voice leading with *decoratio*, a source that serves extremely well is Wiedeburg's *Der sich selbst informirende Clavierspieler*, discussed at length

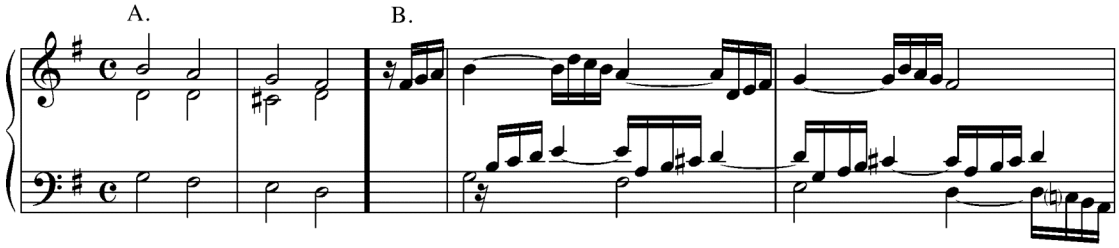
in Chapter 3. Figure 5.18 summarizes the melodic figures used in his presentation to approach a stable tone on the downbeat:

Figure 5.18. Michael Wiedeburg's Melodic Figures (from *Der sich selbst informirende Clavierspieler*, III/x)

a/b: *Schleifer* (up and down)
c/d: *Doppelschlag* (up and down)
e/f: *Schneller* (up and down)
g: trilled lower neighbor
h: trilled passing tone

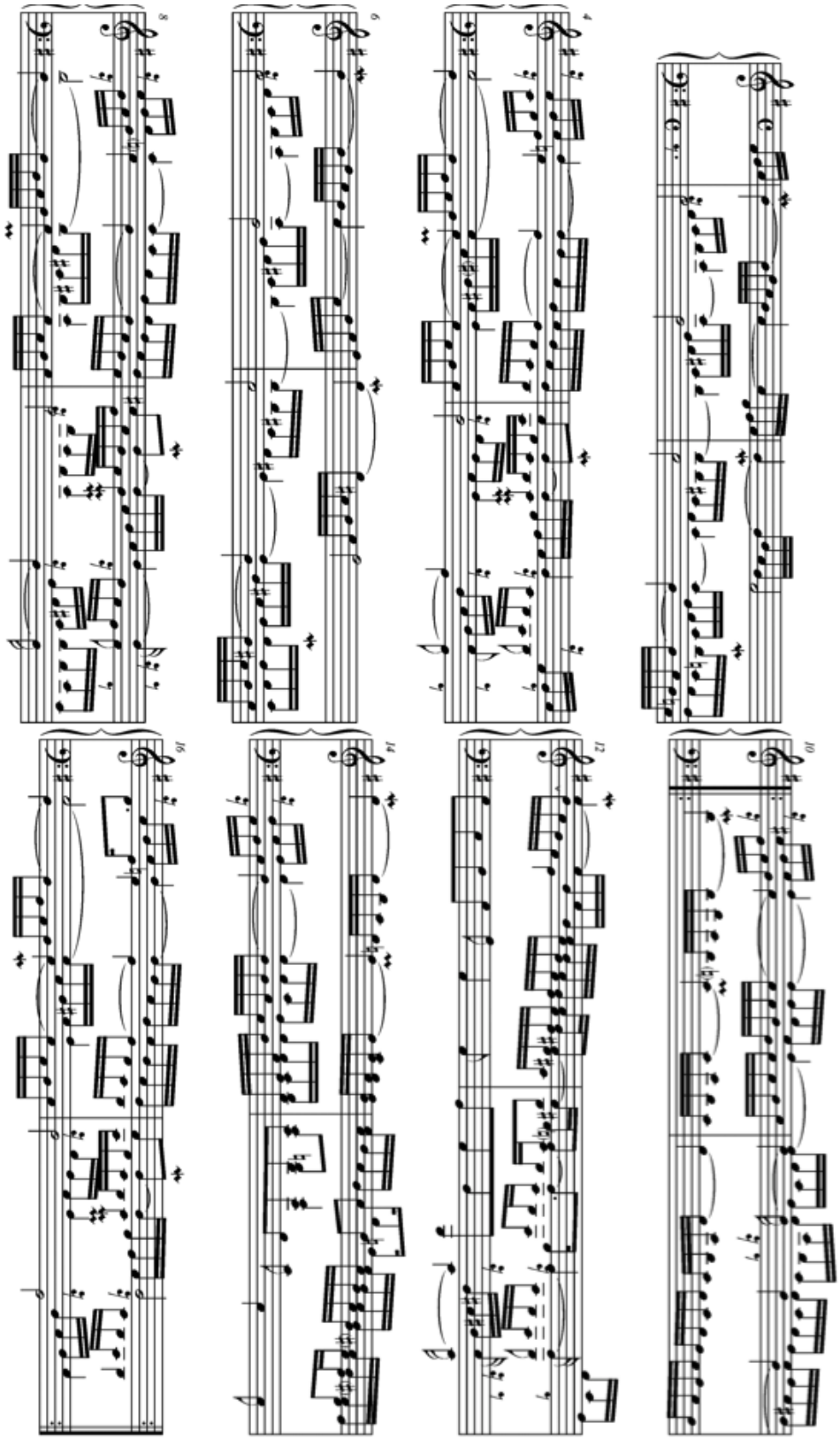
Each of these figures aims for and arrives upon a stable chord tone on the downbeat via auxiliary notes; by concatenating these figures and superimposing them in different voices, one can create satisfying surface realizations of an underlying voice-leading structure. Figure 5.19 shows a preparatory exercise in the form of a three-voice *elaboratio* skeleton for a brief phrase ending in a half cadence, as well as one possible application of *decoratio* in the form of Wiedeburg's *Schleifer* figure from above. Students would build flexibility by realizing the *elaboratio* in Figure 5.17 by means of several different applications of the *Schleifer*, the *Doppelschlag*, and the *Schneller*.

Figure 5.19. Voice-leading Framework with *Schleifer*



Having developed the requisite skills, they then work toward improvising the entire *Allemande*. Below is a transcription of an *Allemande* that I improvised for my students as an example of how Wiedeburg's techniques of diminution can be applied to an existing figured-bass framework in order to create a motivically and texturally satisfying musical surface. The goal is to search for stable tones that can be approached from a fourth above, a fourth below, or a unison—thereby accepting one of Wiedeburg's three small motives—all the while maintaining the voice leading that drives the progression.

Figure 5.20. Sample Improvised *Allemande*



Once students learn to apply diminution in this sophisticated way, they have advanced about as far as they can within the confines of *decoratio*; to improvise without the crutch of ground basses or thoroughbass structures provided for them, they need to avail themselves of the rest of the improvisational hierarchy by learning to manipulate *elaboratio* and *dispositio* as well. After gaining a grasp of how to navigate the keyboard to create an idiomatic musical surface from a given framework, the next step is to tackle the longer-range elements of improvisation—that is, how a piece unfolds in the large span and which general patterns and formulas can be used to accomplish that.

Beyond Diminution: Teaching *Dispositio* and *Elaboratio* through Minuet Improvisation

The improvisation of complete dance suite movements in binary form serves as an excellent didactic exercise, for the pieces are typically quite short and their formal waypoints (i.e., cadences, modulations, sequences) relatively straightforward and consistent. However, an improviser also has a great many options regarding exactly *which* large-scale tonal plan, *which* sequences, and *which* types of phrases to employ in a given piece. The process of learning to conceive of a *dispositio* from an improvisational standpoint consists of assimilating norms for what is more or less universal for a given type of piece, and which options exist at certain places as the piece unfolds. The goal is for students to be able to make pre-improvisational decisions about the basic layout of their minuets, and then to have memorized idiomatic formulas for realizing that layout.

Determining the layout, or *dispositio*, of a minuet is a pre-improvisational task that hinges on a series of flexible waypoints, which together define the overall tonal trajectory of the piece. By studying a corpus of model pieces, students and I work together to deduce the important events that delineate the form of a minuet; by and large, these consist of cadences, sequences, and modulations. The first *dispositio* below shows an abstract template, and then the second one fills in the specific keys and sequence types for a particular minuet.

Figure 5.21. Generic *Dispositio* for an Improvised Minuet

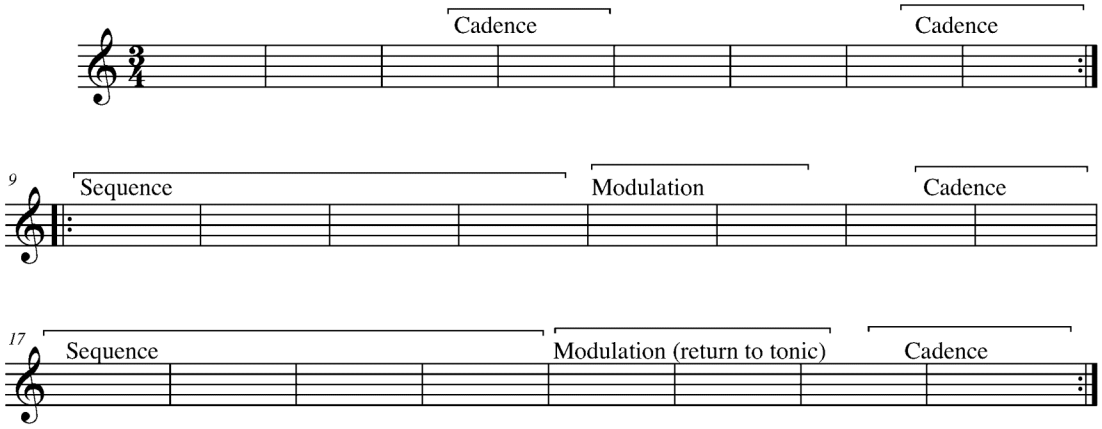
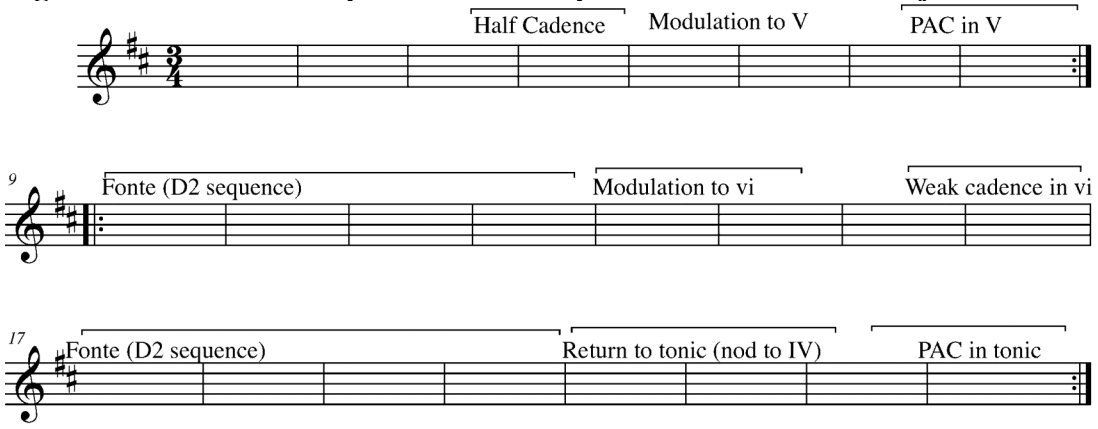


Figure 5.22. Detailed *Dispositio* for an Improvised Minuet in D Major



These assume that the minuet will be cast in simple binary form—that is, without a reprise in the second half—and that the cadences that end the two reprises need not

rhyme. One could easily modify the frameworks to include a return, thereby typifying pieces of the later rather than the earlier eighteenth century. (Obviously, an unprepared improvisation of a rounded or balanced piece is trickier, as one must keep previously improvised material in mind; this is a different sort of memory from what is required to generate pieces, as it is literal but unprepared.) Students keep a *dispositio* such as the one in Figure 5.22 in their minds as a referential template while improvising. They learn the general outline as a background grid, and then insert specific images into the *loci* of this grid, corresponding to the additional details shown in the more detailed plan. The emphasis is on the memorization of the generic grid in a fixed temporal order, and the fluent recall of the various options for each *locus* in it. When students eventually improvise a minuet, I ask them first to declare the specific cadences, sequences, and keys that occupy each slot in the template, in order to check that they have decided upon this large-scale *dispositio* prior to diving into a musical surface. The mnemotechnical apparatus underlying this approach is exactly the one championed by the ancient treatises on rhetoric, and it closely parallels Jeff Pressing's notion of an improvisational referent as well; by memorizing a fixed referent (or background) in a fixed temporal order, one reduces the cognitive load of recalling the detailed options that reside at each locus in it.

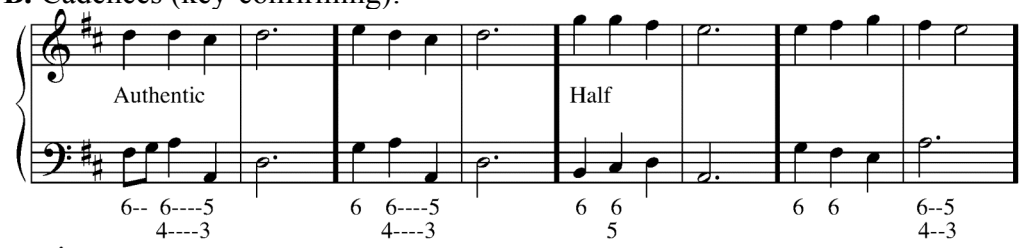
Meanwhile, the improvisers learn a vocabulary of characteristic formulas for each locus in the referential template, and then assimilate these into an ever-growing knowledge base of improvisationally fluent gestures. For a minuet, I teach four categories of relevant formulas: tonic expansions that define a key, cadences that

confirm a key, modulatory schemes that introduce a key, and sequential patterns. The four figures below list just a few samples of each category, in the form of outer-voice counterpoint with figures, all of which students would transpose to all common major and minor keys (i.e., up through four sharps and flats) and memorize to the point of absolute fluency. These idiomatic progressions might be gleaned from *partimenti*—either the Italian sources, or German ones such as Mattheson's *Organistenprobe*, J. S. Bach's *Vorschriften und Grundsaetze*, the *Langloz* manuscript, or Handel's exercises for Queen Anne. Learning these as unelaborated, motivically agnostic, flexible *elaboratio* patterns allows them to rely upon the *decoratio* techniques that they have already mastered, and to generate a seemingly infinite number of potential musical surfaces.

Figure 5.23. ***Elaboratio*** **Patterns for Study, Transposition, and Memorization**

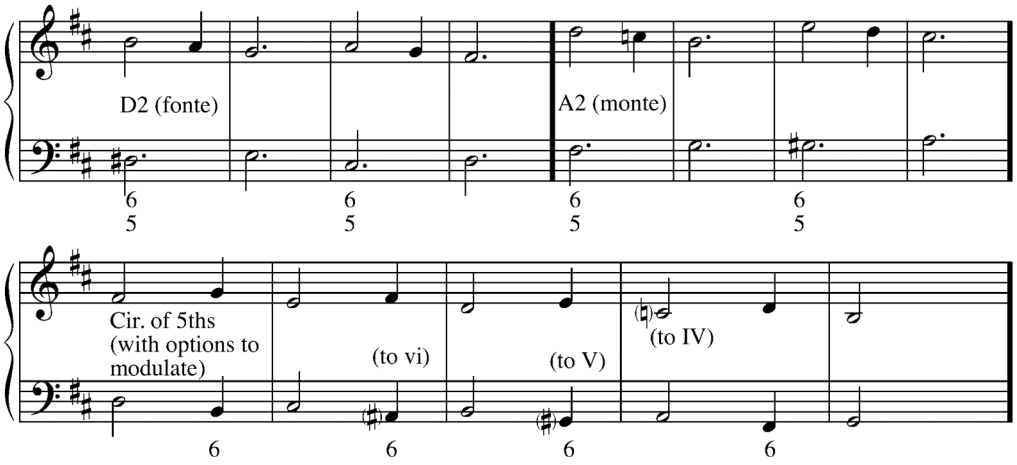
A. Tonic expansions (key-defining):

B. Cadences (key-confirming):



C. Modulations (key-seeking):

D. Sequences:



To construct meaningful passages of music, improvisers sew together several of these patterns into phrases and sections. For example, if the first reprise of the minuet is an eight-measure parallel progressive period interrupted by a half cadence at measure 4, then they play one or more tonic-expansion patterns followed by a half-cadential formula, and then a modulation pattern to the dominant followed by a perfect authentic cadential formula in that key. Students spend time applying various assigned motives to a framework, thereby fostering a flexible deftness at rendering a convincing musical surface out of an underlying structure. To demonstrate this principle, the minuet shown below is a transcription of one that was improvised based upon the *dispositio* shown above. At each stage in the piece, characteristic formulas for tonic expansions, cadences, modulations, and sequences (i.e., *elaboratio*) realize the important waypoints of the *dispositio*, and a motivic idea unifies the surface realization.

Figure 5.24. Sample Minuet Improvised Using the *Dispositio* in Figure 5.22

Models from the seventeenth- and eighteenth-century keyboard repertoire become especially useful tools once students have developed some fluency with long-range planning, local formulas and generating principles, and diminution strategies.[12] The concern expressed earlier about the dangers of analytical models has now passed, since students have enough improvisational skill to be able to extract useful techniques from model pieces. In particular, a great deal of improvisational insight can be gleaned from groups of pieces that realize the same underlying generating

principles in different ways—that is, ones that can be regarded as different improvisational instances of the same set of formulas. One such set of pieces are the five Buxtehude keyboard suites in C major, BuxWV226, 227, 228, 230, and 231, which exhibit close similarities just below the musical surface.[13] As an analytical component to the improvisational curriculum, students are asked to determine the *dispositio* that these pieces have in common, how each one realizes this layout by means of a different set of *elaboratio* progressions and *decoratio* patterns, and eventually how a performer might utilize this insight as a starting point for additional improvisations. Indeed, this is a very narrow definition of analysis that falls outside of the analytical modes that we typically teach to our students; its focus is entirely improvisational and pragmatic, aiming primarily to extract improvisational tools from the pieces and only secondarily to enlighten aspects of their structure. As a sample, we will consider the first reprises of the *Allemandes* from BuxWV 226, 228, 230, and 231. In broad strokes, each modulates from C to its dominant and affirms it with a strong cadence just before the repeat sign, but there are also several intermediate waypoints in common among the four reprises, as shown on the *dispositio* below:

Figure 5.25. *Dispositio* of Four First Reprises by Buxtehude
(A) Initial Prolongation of Tonic
(B) Tonicization of IV and Intermediate Cadence in Tonic
(C) Modulation Strategy to V
(D) Cadential Confirmation of V

The reprise consists of four stages, each of which accomplishes a particular improvisational goal: Stage A establishes the key by means of one or more tonic-prolongational formulas, Stage B tonicizes the subdominant and then returns to an

interior cadence in tonic, Stage C effects a modulation to the dominant key, and Stage D confirms that key by means of a cadence. Once this common *dispositio* is determined, an improvisational analysis then considers the particular strategies and formulas by which each stage of the *dispositio* is realized in each specific piece. Students are asked to play each of the reprises and to notate them as *elaboratio* thumbnails, capturing the essential bass, soprano, figures, and important inner voices while stripping away the specific *decoratio* motives; these thumbnails, which appear beneath the pieces to which they pertain, are bracketed according to the four stages of the *dispositio* in order to facilitate the comparison of similarly functioning sections of each piece. As the following discussion will demonstrate, the thumbnails will also serve eventually as "lead sheets" upon which students will improvise their own variations upon the basic improvisational train of thought employed by Buxtehude.

Figure 5.26. First Reprise of *Allemande*, BuxWV 226, with *Elaboratio* Thumbnail

Prior to tonicizing IV, the four reprises vary widely in the length and type of tonic expansion formulas used at the outset (Stage A). BuxWV 226 simply arpeggiates a tonic triad, using upward and downward *Schleifer* figures to approach chord tones; BuxWV 228 is similarly simple, employing upper-voice motion over a tonic pedal and then passing up to a tonic sixth chord. In contrast, the opening stage of BuxWV 230 includes an entire cadential progression over a rising bass line, culminating in the weak cadence halfway through the second measure; this cadence,

in combination with the one that necessarily ends Stage B (after the tonicization of IV), serves to punctuate the reprise into self-contained sections to a greater extent than in the other three pieces.

Figure 5.27. First Reprise of *Allemande*, BuxWV 228, with *Elaboratio* Thumbnail

Realizations of the next *dispositio* stage—that of tonicizing the subdominant and then cadencing (albeit weakly) in tonic—are more similar to one another than those of any of the other stages, with a few interesting exceptions. In particular, BuxWV 226 and 228 realize identical *elaboratio* frameworks with different surface

motives. The *Schleifer* of BuxWV 226 and the lower-neighbor and turn figures of BuxWV 228 lead to very different-sounding pieces, which can serve to show students the hierarchical way in which *elaboratio* and *decoratio* interact—that is, that the formulas are flexible enough to produce very different melodic and rhythmic surfaces when subjected to different sorts of diminution strategies. Another issue to be teased out of this stage in the *dispostio* is that improvisational waypoints can be achieved weakly (i.e., barely) or more strongly and emphatically: BuxWV 230 has the weakest cadence of the four, arpeggiating from F to A in the bass and then returning stepwise to tonic through V6/5; in contrast, BuxWV 231 appends an entire cadential bass progression (i.e., ^1-3-4-5-1) to arrive quite strongly back on tonic, but then pulls the rug out by omitting all but the upper-voice C precisely at the moment of putative cadential arrival.

Of course, the tonicization of the subdominant and return to tonic that occurs at the opening of these *Allemandes* is a ubiquitous tonal gesture. (One thinks in particular of the *exordium* of preludes, praeambula, and toccatas, but it can be found virtually everywhere as an opening gambit.) This raises the question of why I would focus on four instances of it by the same composer, from the same time period (and possibly the same day), rather than upon its appearance in the works of a variety of composers in different times and places. My intent is not to demonstrate the ubiquity of the pattern, which is obvious, but rather to present the clearest pedagogical method for encouraging students to discern similarities and differences on each of the three hierarchical levels of improvisation—identical versus non-identical long-range goals,

similar versus different voice-leading progressions, and different types of surface motives. A set of variation suites by the same composer is perfectly suited to this, given the unanimity of key, meter, basic texture, and usage of the keyboard across all four movements.

Figure 5.28. First Reprise of *Allemande*, BuxWV 230, with *Elaboratio* Thumbnail

Each of the modulation strategies from C to its dominant seeks a way of introducing F-sharp smoothly and reaching tonic in G major via a weak, linear dominant-tonic progression. BuxWV 226 uses the C and E of the tonic cadence to

initiate a set of descending parallel tenths, which reach ii in G and prolong it via voice exchange; the introduction of F-sharp over a static C bass propels the dominant 4/2 to resolve to tonic in G, and then another figured-bass progression over A-F#-G further stabilizes the new key in preparation for the cadence. BuxWV 228 moves more quickly to G, following the C-major sonority with ii-V7-I in G in quick succession, and all in root position. The introduction of F-sharp in BuxWV 230 is the most subtle of the four, as tenor-voice suspensions support two short progressions that introduce F-sharp in a subtle, contrapuntal manner: 4/2-6 (over C-B), and 6/5-6/5-5/3 (over E-F#-G). In BuxWV 231, two attempts are needed in order to arrive squarely in G. At first, 5-6 motion over A introduces an F-sharp that is quickly canceled by a cadential progression to C; however, this resolves deceptively back to A, which allows a second 5-6 motion to try again and succeed this time, as parallel 6/3 sonorities lead upward toward the eventual cadence.

Figure 5.29. First Reprise of *Allemande*, BuxWV 231, with *Elaboratio* Thumbnail

As part of this brief and informal analytical work, students observe four different ways of establishing an opening tonality, of progressing from this and confirming it cadentially, of modulating to the dominant, and of reaching a strong formal cadence there. The fruits of this analytical labor can be reaped in an advanced application of the three-tiered improvisational hierarchy that fuses analysis with improvisational learning. If we view these four reprises as but four of countless

possible interactions among *dispositio*, *elaboratio*, and *decoratio*, then we can also use them as a springboard for more such interactions. To do this, we vary one hierarchical level while controlling for the others, so to speak. For example, students use only the reductions of these reprises—and not the scores themselves—as the basis for improvisations of their own. One way of doing this is to apply different *decoratio* patterns to the same *elaboratio* that Buxtehude used, thereby encouraging creativity within constraints by isolating one hierarchical level. A sample is shown below, which uses the reduction of BuxWV 231 as an *elaboratio*, but applies entirely different surface diminution to it from what Buxtehude did.

Figure 5.30. Sample Improvisation Demonstrating a Varied *Decoratio* of a Fixed *Elaboratio* Framework

A more advanced assignment is to realize the *dispositio* exhibited by these four pieces by means of *elaboratio* formulas that the students devise themselves (i.e., ones that Buxtehude did not use), but then to use the same surface motives (e.g., the *Schleifer*) that Buxtehude did use; this varies the *elaboratio* while holding the *dispositio* and *decoratio* constant, again toning just one set of improvisational muscles. A sample improvisation of this type is shown below, which employs a different set of *elaboratio* frameworks from any of Buxtehude's, but decorates them with the lower-neighbor and turn figures that pervade the first reprise of BuxWV 228.

Figure 5.31. Sample Improvisation Demonstrating a Varied *Elaboratio*, but Fixed *Dispositio* and *Decoratio*

The course discussed here is for keyboardists, but many of the essential tenets of this pedagogical method can also be adapted to other instruments, including the voice. This would be an important next step for future research, as it would further broaden the relevance and accessibility of stylistic improvisation beyond keyboard players and the additional curricular applications discussed earlier in this chapter. I will suggest just a few paths that these pedagogical tributaries might follow: To those

students in my keyboard class who were only secondary pianists, I suggested recording several iterations of a ground bass line, and then learning to improvise above it (especially in compound melody), either vocally on their own native instrument. The same cognitive process of learning a framework and then exploring diminution possibilities is still relevant, and compound melody becomes even more important to those who cannot play two literal voices simultaneously. However, the peculiarities of envisioning compound-melodic structure when the constituent voices are not physically present on a keyboard—particularly when pitch on the instrument is either non-linear (e.g., bassoon) or non-visual (e.g., voice)—remains to be explored. Another option is to create a texture similar to the cello suites or violin partitas of J. S. Bach, whereby a single non-keyboard instrument accomplishes an entire texture, including bass, soprano, and inner voices. The rhythmic subtleties needed to do this well are beyond what is taught in the keyboard curriculum proposed here, but would be especially valuable to enthusiastic players of brass and woodwind instruments who struggle to find a suitable entrée into Baroque improvisation. Ultimately, though, I still prefer singing as the best method for making improvisation relevant to and achievable for any musician. Even a student with the most severely limited pianistic abilities can learn to conceive of voice leading as a motivated improvisational track that accepts myriad *decoratio* possibilities. I have met success teaching a limited vocal improvisation curriculum to aural skills students, but have not presented the methodology here; to codify a well-structured pedagogical approach for it would be immensely valuable future project as well.

Conclusion

By immersing themselves in keyboard improvisation in the Baroque style, students learn an invaluable skill of creative performance, but they also develop a direct aural and kinesthetic link to idiomatic counterpoint and composition, thereby hearing and grasping as well as thinking about their writing. In addition to the immediate auditory feedback that they receive by working at the keyboard, they also form an indispensable connection between what feels right while playing, what sounds appropriate while listening, and what works well while composing or improvising. This link—which is often quite difficult to teach to students—is a built-in by-product of improvisational learning. Students learn a style as we learn a language—by speaking it; they go beyond merely following the rules, and they build skills of creative problem solving, musical taste, and performance.

More broadly, the application of methods for keyboard improvisation to modern-day pedagogy allows us to approach both the skill and the music from the inside, learning to *do* something and not merely to understand it passively from the outside. To dive into the creative process reveals just what is involved in generating this music, which renders the musical structure both more impressive and more accessible to students; this demystification is a rewarding signpost of improvisational mastery. As Derek Bailey states elegantly, improvisation is probably the most direct, immediate sort of music making:

> Improvisation, unconcerned with any preparatory or residual document, is completely at one with the non-documentary nature of musical performance and their shared ephemerality gives them a unique compatibility. So it might be claimed that improvisation is best pursued through its practice in music. And that the practice of music is best pursued through improvisation.[14]

By placing us in the roles of both performer and composer, improvisation is the activity that gets us closest to the creative essence of music *making*—that is, making the music and not just transmitting it. It is also, according to Deborah Rifkin and Philip Stoecker's recent reformulation of the learning taxonomies of Bloom, Anderson, and Krathwohl, the highest form of musical learning.[15] To do it well requires a synthesis of many types of musical skills, and a mastery of all of them to the extent that they are fluently accessible constituents of our musical memories. Music that we improvise has been both internalized by us (as patterns of *dispositio*, *elaboratio*, and *decoratio*) and created by us (as the novel intersection of these patterns to generate new material); thus, it is the pinnacle of both learning and creativity for a musician. In this intersection of analysis, performance, and *musica pratica*, improvisation can be for us exactly the sort of integrated musicianship that it was for the master keyboardists of three centuries ago, and indeed perhaps more than that as well—for it also offers us, from our synthetic perspective, a stimulating and rewarding project for coming to terms with both their artistry and our own.

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[1] Bailey 1992, 66-7.
[2] Porter 2000, 29.
[3] I am grateful to Dr. Margaret Henry for giving me free reign over the curricular planning of this course, and to my students for open-mindedly and enthusiastically diving into improvisation, usually with no prior experience. In particular, I wish to acknowledge the efforts of Ryo Miyamoto, Mary O'Hehir, Marissa Balonen-Rosen, Marlin Mei, Bella Vishnevsky, Jessica Lin, Demian Spindler, Sarah Koniski, Kate Blaine, Ben Craxton, and R'ryona Thomas.
[4] Stravinsky 1942. The Apollonian aesthetic of logic, order, rationality, construction, and unity is contrasted with the Dionysian one of freedom, irrationality, fantasy, emotion, and expressivity.
[5] Porter 2000, 35.
[6] Sudnow 2001.

[7] I suppose one could say that the arpeggiations in Figure 5.8A represent compound melody, rather than just the linearization of a chordal framework. I do not think so, however. No heed is given at this stage to the higher-order linear motions created out of non-consecutive pitches in the same register; the chords are simply arpeggiated in a way that does not exceed a reasonable set of registral boundaries or cause undesirable voice leading (e.g., downbeat parallels, doubled leading tones struck together, etc.). Certainly, compound melody is a more advanced topic to be taught after the introduction of motive; it involves the simultaneous implication of multiple voices by leaping between registers, akin to how a juggler keeps multiple objects in the air.

[8] Dariusz Terefenko refers to this principle as "play-and-hold," a term I rather like.

[9] The present discussion has offered the G-major Chaconne bass as a sample for demonstrating the pedagogical approach from start to finish, but this does not at all mean to suggest that the students would progress this far without being introduced to other types of variations and other keys. The diatonic and chromatic lament basses and the *Follia* are also introduced rather early in the curriculum, as are transpositions of all basses, so that the improvisers' repertory of *elaboratio* patterns grows simultaneously with their set of *decoratio* techniques.

[10] Porter 2000, 30.

[11] If additional steps are needed before continuing on to entire binary-form movements, sequences would provide an ideal environment in which to hone diminution technique. Since they allow for—and actually *require*—the same diminution pattern throughout the sequence, and their linear-intervallic patterns offer crystal-clear *elaboratio* frameworks, they would work very nicely as easily learned vehicles for honing *decoratio* technique.

[12] As an aside, it should be clear that the improvisational techniques discussed from here forward are really intended for the most gifted, most interested students; no one is naïve enough to think that these are appropriate for an average sophomore theory class. However, I wish to reiterate the broader relevance that can be extracted from these techniques by regarding improvisation in the most open-minded sense possible; in particular, these techniques can be extremely useful to less gifted students if they work at a keyboard to *construct* a piece outside the stresses of a real-time environment, employing all of the same techniques as improvisation without its temporal demands.

[13] Kerala Snyder (2007, 279-80) discusses these Buxtehude variation suites in connection with works by Froberger and Reincken. In particular, the openings of the *Allemande* and *Courante* of BuxWV 230 resemble both Reincken's Suite in G major and Froberger's F major suite (IV) of 1649. The Froberger connection is really just the opening melodic shape, but the commonalities with the Reincken piece are deeper, involving shared bass lines and thoroughbass structures. In addition, all three works contain *Courantes* that begin as variations on the *Allemandes*. Thus, the connections shown here among the four Buxtehude pieces could easily be found between works of different composers and time periods; I have simply found it

pedagogically expedient to focus on varied examples in the same key, meter, etc., which allows students to discern the variations among them more easily.

[14] Bailey 1992, 142.

[15] Rifkin and Stoecker 2009.

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